THE FARMERS' CABINET,

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. III.—No. 3.] October 15, 1838. [Whole No. 45.

For the Farmers' Cabinet.

Manure.

Feed your plants and they will feed you.

It is a subject of much regret that more vigilance and care is not taken by many farmers to increase the quantity of their manure. It is the very base of their prosperity; without it little can be achieved that is important or valuable; with it, every thing can be accomplished that is within their reach. By the use of lime applied to grass lands, and great care in bringing all decomposable articles into the dung heap, the quantity on some farms has been doubled in seven years. After it has been obtained it requires a little skill and judgment to preserve its most valuable parts from being drenched and washed away by frequent rains; for although it is not best to keep it too dry, yet it is much more frequently suffered to become so frequently wetted with drenching rains as to wash away the most nutritious portions of it. Dung that has remained under open sheds where it was but partially exposed to the elements, has been found to be much richer in quality than that which was entirely exposed to rain. In some situations, much is lost by water running through barn yards during heavy showers, and in some cases they are perfect quagmires for half the year, rendering it disagreeable, if not dangerous to approach a stable door. This state of things constitutes an absolute nuisance, and ought to be provided against by every farmer who has a proper sense of propriety, and a due regard for the female members of his family, who are obliged twice a day to trudge through wet and filth to milk the cows. The autumn is the proper season for making suitable footways to stable doors, and other arrangements for preserving the manure to be made during the approaching winter from loss by washing and to protect it from being filtered by rains till it loses its most valuable component parts. A shrewd old gentleman of Montgomery county estimates the importance of a farmer by the number of loads of manure he makes annually. A fifty load farmer is rather a small article; one of a hundred loads stands a little stiffer; one of 150 loads holds up his head pretty well and begins to be quite respectable; and the 200, 250, and 300 load farmers are entitled to have the word Mr. as a prefix to their names, and the letters Esq., placed after it. These are the solid yeomanry, in his estimation; the men of substance and stamina, out of which, in his opinion, any useful article can be manufactured, even up to a congressman or governor. Whether he is altogether right in his way of estimating farmers I must leave others to judge; but one thing is pretty certain, that it is a good thing for every farmer to have an abundance of manure to furnish nutriment to his crops, and this he won't be likely to obtain unless he is very industrious and manages well.

GWYNNEDD.

For the Farmers' Cabinet.

Observer.—No. XVI.

ON LIGHTNING RODS.

"Led by the phosphor light, with daring tread,
Immortal Franklin sought the fiery bed,
When, nursed in night, incumbent tempest shrouds
His embryo thunders in circumfluent clouds,
Besieged with iron points their airy cell,
And pierced the monsters slumbering in their shell.

DARWIN.

The destructive thunder storm which visited us on the evening of the 11th inst., has led to many inquiries respecting the construction and use of lightning rods. In order more fully to answer these inquiries, I shall offer a few remarks on the subject for the pages of the Cabinet. Hoping, thereby, to correct

some erroneous opinions respecting their intention and mode of operation; to encourage my readers to avail themselves of the protection which they afford; and to furnish a few plain, practical directions how to have them constructed. To the *electrician* this may seem unnecessary; but the great mass of agricultural readers may (without any disparagement,) be said to have very little acquaintance with the subject. They have not had an opportunity to study electricity as a science. As I am writing for this class, I shall endeavor to be accurate rather than scientific, and practical rather than theoretical.

Every one knows that the object of a lightning rod is to protect the building from injury by lightning; but every one does not know *how* that protection is afforded, or *what conditions* are necessary to secure it. For instance, many persons believe that the rod is intended *to present an attractive point for the lightning to strike to*, and then to convey it harmlessly to the ground. This belief is altogether erroneous; and more, it is injurious; and why? because those persons very naturally suppose, that if the rod has power to draw the stroke at all, it will sometimes bring it to the building, when it would otherwise have passed to a distance, and thus do more harm than good. If the premises were true, the conclusion would also be true, and the objection valid. Many are discouraged from putting up rods by this view of the subject. But so far is the rod from presenting a point for the lightning to strike to, that *I believe it impossible for it to do so when the rod is properly constructed in every particular.* This is undoubtedly true under all ordinary circumstances. I hope my readers will forbear to call this language presumptuous. The phenomena of electricity, like all the other operations of nature, are governed by certain and fixed laws. When these laws are

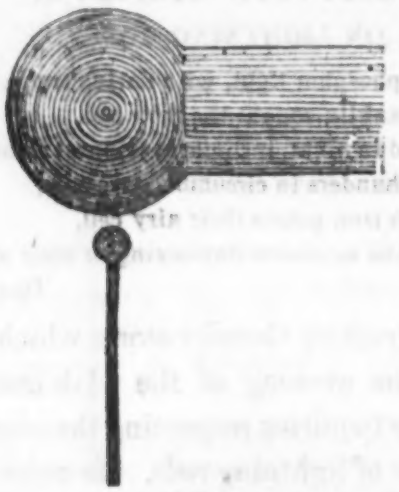


Fig. 11.

once ascertained, we can speak with as much confidence, and with as little presumption, of the *attraction of electricity*, which causes it to pass from the clouds to the earth, as we can of the *attraction of gravitation*, which "draws the stone unerring to the ground."

It has been satisfactorily ascertained,

1. That when a metallic ball is presented to an electrified body, as in fig. 11, it will receive a spark, accompanied with an explosion, and the body will be found to have lost more or less of its electricity. The distance to which the spark will pass, is called the *striking distance*, and varies with the intensity of the charge, and a variety of other circumstances which need not be enumerated here.

2. That when a metallic point is used instead of a ball, as in fig. 12, no spark or explo-

Fig. 12.

sion will be perceived; but the electricity of the electrified body will be discharged—even more completely than in the former case—while the point is at a much greater distance than the ball was in the former experiment. If this experiment be made in the dark, a small star of electrical light may be perceived on the point.

3. That when the ball and point are both presented to the electrified body at the same time, as in fig. 13, its electricity will be

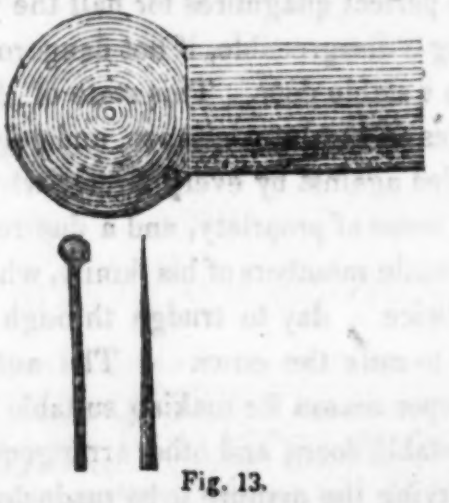


Fig. 13.

silently discharged, as in the second experiment, long before the ball comes within its

former striking distance. As the ball approaches, no spark will be perceived; the point entirely *prevents the stroke.*

4. That when the ball and point are both presented to the electrified body, but with the point much farther off than the ball, the point will still discharge the electricity of the body before the ball arrives within striking distance, and *the stroke will be prevented.* This experiment shows that the point operates on the charged body at *a much greater distance* than the ball.—Fig. 14.

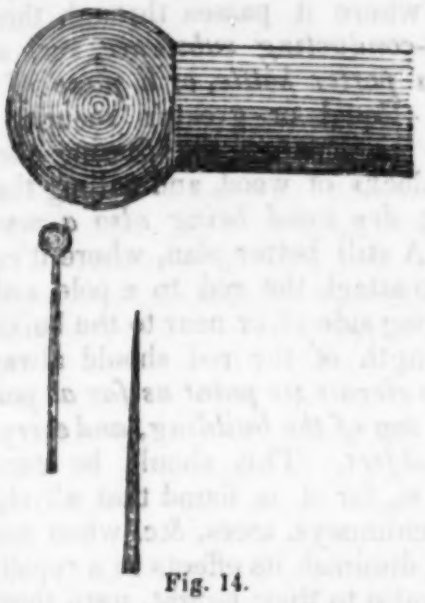


Fig. 14.

The phenomena mentioned in the last paragraph, occur with uniform regularity whether we employ an amber bead, excited by friction,—an electrical machine,—or the sable mantle of the skies, as it hurls "the dread artillery of heaven" on a devoted world. They result from the nature of the electric fluid, and are in strict obedience to determinate laws by which it is governed. They are precisely the same, whether brought into play by drawing a silk stocking; by stroking the back of a cat; by working an electrical machine; or by the more grand and terrific movements of a thunder cloud. Wherever electricity occurs, it is subject to the same laws. *A ball will always receive it in form of an explosive spark when brought within striking distance; a point will as certainly draw it off in a silent invisible stream, at several times the distance which the charge is capable of striking to—when both are used, the point will entirely prevent the stroke.*

Having ascertained these simple facts, and referred them to their governing laws, it became an easy task for the keen perceptions of a Franklin, to discover how they might be applied to protect buildings against lightning. He compared the *electrified body* to the *thunder cloud*; the *ball* to the *building*, and the *point* to the *lightning rod.* see fig. 15, and the parallel was complete. The two arrangements were composed of the same parts; they were necessarily subject to the same governing laws, and the result in the two cases must be the same. Thus he arrived at the important conclusion, *that the rod will draw off*

Fig. 15

the electricity from the cloud before it comes near enough to strike to the building. It was this inductive reasoning from scientific truths which

> "Bade his bold arm invade the lowering sky,
> And sieze the tiptoe lightnings ere they fly."

To render the subject still more clear, suppose the cloud, in the last figure, to be capable of striking the house at the distance of ten yards; but it has been shown that the point will operate at several times the striking distance, say thirty yards; it must, therefore, follow that *the point would remove all danger from the cloud before it came near enough to strike the building.* The reader must bear in mind, that these numbers are not set down as the actual distances at which the ball and point will operate. No such distances can be assigned, because they continually vary from nothing up to an indeterminate extent, as the intensity of the electric charge and other circumstances vary.

It is hoped that this brief exposition of the principles of electrical science, will dispel the doubts of some; inspire others with confidence in the protective influence of lightning rods; and prepare all to comprehend the following directions for their construction. The amount of protection which they afford, depends upon this. If improperly made, they may even prove a dangerous appendage to a building. The following particulars should be carefully attended to.

The *body of the rod* may, very conveniently, be made of five-eighths or three quarters bars of round or rolled iron. If practicable, *the bars should all be welded into one piece.* Where this cannot be done, a deep socket should be formed in the lower end of the upper piece, so as to fit accurately on the top of the lower one. The incumbent weight will then keep the parts in complete contact. The lower end of the rod, to a short

distance above the ground, should be made of larger iron, to enable it the better to withstand the corroding effects of rust. Several feet of the top of the rod should be drawn out by a regular taper to suit the size of the point. It also renders the top of the rod lighter and more steady.

As the delicate point of an iron rod would be speedily destroyed by rust, it becomes necessary to employ some metal for the *point*, which is not liable to corrosion. *Platina* and *gold* are most commonly used; and good points may be purchased ready made; but the value of these metals renders them objectionable. Either they do not contain enough of the precious stuff, or the expense is too great. The comparative cheapness of *silver* allows us to use it in larger quantity, and it is equally well suited to the purpose. An ordinary blacksmith can make two good silver points out of a half dollar, and save sufficient stuff to pay him for his labor. It should first be cut as marked in fig. 16, and the larger

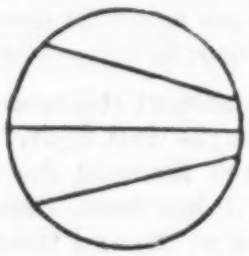


Fig. 16.

pieces forged into points, either square or round, about two or three inches long, with a top to screw into a hole drilled in the top of the rod.—See fig. 17. It may be proper

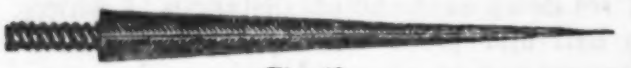


Fig. 17.

in this place to correct a very common error, that *brightness* is essential to a good point. *Brightness* is only necessary as a security for *sharpness*. The brightness is destroyed by rust, and rust destroys the point. The sharper it is the better it will operate.

The rod should be planted *so deep as to insure its connexion with moist earth, even during the dryest seasons.* Dry earth is a non-conductor of electricity; hence, if it becomes dry about the foot of the rod, the passage of the fluid *from the cloud to the earth* becomes interrupted, and the rod rendered useless. To insure a more perfect connexion with the ground, I would advise to dig a hole several feet deep, according to the situation, whether dry or moist. An *old stove plate or other iron casting*, should be laid in the bottom for the rod to stand on, and *two or three bushels of charcoal* placed in the hole before the earth is filled in. The iron enlarges the surface of contact between the rod and earth, and the charcoal, having a strong affinity for water, will retain moisture better than the clay. The rod should be so bent about the surface of the ground, that the foot may stand off from the building at a considerable angle.

The manner of attaching the rod to the building, deserves some care. If it performs its office well, and prevents the stroke, this is of no consequence. But if, from any cause, the lightning should strike the rod, a metal fastening might conduct it into the wall, especially where the connexion with the ground was imperfect. When iron hooks or staples are used, it is a common practice to enclose the rod, where it passes through them, in some *non-conducting substance, such as the neck of a porter bottle, or a piece of horn or bone.* Equal or greater security may generally be obtained by passing the rod through blocks of wood, and nailing them to the wall; *dry wood being also a non-conductor.* A still better plan, where it can be done, is to attach the rod to a pole, and elevate it along side of, or near to the building.

The length of the rod should always be such as *to elevate its point as far as possible above the top of the building, and every contiguous object.* This should be carefully attended to, for it is found that all objects, such as chimneys, trees, &c. when near to the point, diminish its effects in a rapidly increasing ratio to their height, until they render it *entirely useless.* Thus the rod attached to the low building, in fig. 18, being com-

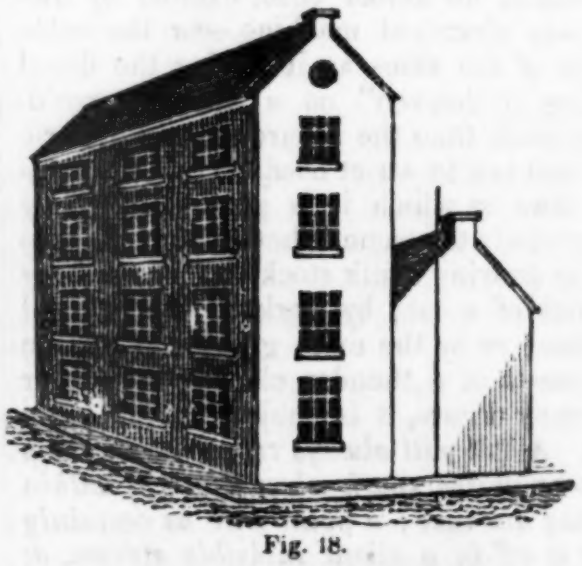


Fig. 18.

pletely overtopped by the higher one, is rendered incapable of affording any protection to either of them, while a proper rod attached to the higher building, would effectually guard them both against danger.

We too often see conductors hang dangling by the side of buildings, with the lower end broken off; or only *imperfectly connected with the ground.* Still more frequently we see the point *scarcely raised above the top of the building*, or completely *overhung with trees.* The protection which they afford must be very precarious. Indeed, we often hear of such buildings, or rods, or the overhanging

trees, being struck with lightning. This is no more than might be expected. But what is more to be regretted is, that such cases are continually brought up to prove that lightning rods are of no service. Such testimony is altogether inadmissible. Let all the conditions of a perfect conductor be fully complied with; *make it one connected whole; sink it deep into the earth; elevate it above all near objects; and furnish it with a perfect point;* and he who recommends its use, will cheerfully abide the trial.

New Garden, 8th mo. 20th, 1838.

For the Farmers' Cabinet.

Lime.

It is highly gratifying to observe that increased attention has been paid of latter time, to the developement of the advantages which this simple, but intrinsically valuable agent is capable of producing in a great variety of forms.

I noticed on page 20 of the present volume of the Farmers' Cabinet, an article "On the *Preservation of Roofs of Buildings.*" That essay is principally confined to a spirited recommendation of the "*alkaline solution,*" as an efficient preservative; and to a correct description of the method of applying it,—in all which I concur with the writer, fully—but conclude, that a brief description of the *practical effect*, of what I deem a *liberal experiment*, made by a judicious farmer of New-Jersey, may tend to encourage others to avail themselves of advantages so *plainly demonstrated.* With this view the following particulars are furnished for publication.

On an interesting visit, which, in company with an enterprising young man, I several years ago made to a friend of ours, then reputed a first rate "Practical Farmer," the valuable properties of *Lime* being adverted to in conversation, the writer ventured an opinion, that this article was, under proper circumstances, a better preservative of the *softer* kinds of our American wood, than paint itself —to which our friend rejoined with an emphasis that well bespoke his energy in the matter, "If you will walk with me, you shall see I have *proven that.*"

He took us to a building that served the respective purposes of a carriage-house and corn cribs, the roof extending to within a few feet of the ground; the side first examined exhibited an appearance so decayed and defective, as to be scarcely capable of turning off hail—whilst the *other side* presented the appearance of a perfectly sound, and nearly *new roof.* Nor could we be convinced that it was not either a comparatively new one, or originally composed of materials altogether superior to those of the side first examined, until informed that they were both of the same age, within a day or two, and of the same kind of materials, put on by S—— ——, (now and for many years an eminent merchant of this city) who considered them of good quality. On expressing our astonishment, and enquiring the process by which so extraordinary an effect had been produced, our friend informed us, that soon after this building was erected, entertaining then a high opinion of the properties of lime, he obtained his father's permission for making a fair experiment of its efficacy in this particular form—and that, after the roof had been on *eight years*, he applied upon the north side of it, a coat of *hot lime*, as he termed it. Eight years after that, another coat, and eight years after that a third coat—and, that the result was here to testify for itself.

A thorough examination was then made with the assistance of a ladder, &c. of this side of the roof, and not the least appearance of even the commencement of decay could be detected. If I mistake not, the last application of lime was made a year or two previous to the time when it was shown to us.

Comment upon an experiment so handsomely carried out seems needless—the operation was judiciously performed, and the lapse of time has proven its efficacy. Its intrinsic value to the citizens of New Jersey, or elsewhere, if duly appreciated, would be immense. The writer, as well as many other persons to whom the case described has become known, never pretend to cover a building of any value with wood, without a thorough application of the "alkaline solution."

There is one other fact that should never be overlooked in this matter, which is, that a saturation of wood in a strong alkali, especially if a little salt is added, as should be, renders it comparatively incombustible. Such an application would doubtless save from *destruction* by *fire*, in the country in particular, many a valuable house with its contents. A friend to

PERMANENT IMPROVEMENT.

Philadelphia, 9th mo., 1st, 1838.

For the Farmers' Cabinet.

Grass and Grass Seeds.

A Farmer never thrives unless he raises abundant crops of grass; for grass and hay feed stock, and stock makes manure, and with plenty of manure, grain and every other agricultural product is easily brought into existence, but without manure, which is the food of all plants, farming would soon come to a full stop; as well might we expect a mill to grind without water, or a watch to keep time without a mainspring, as for grass and grain to grow and thrive without being furnished with food. I have never yet known a prime good farmer that did not pay especial attention to raising the greatest possible quantity of,

grass, and I have never known one that did so, but what was more than amply remunerated for his expense and trouble. It is painful to see within twenty miles of Philadelphia, Indian or wood grass still maintaining its original position in some fields and meadows, when lime that can be so easily and cheaply procured would soon destroy it and supply its place with something alike creditable and profitable to the cultivator of the soil. Grass seed should always be sowed evenly and in quantities to coat the surface with a sufficient number of plants to exclude weeds; there should be no room left for *unbidden guests* to seat themselves. Red clover, which should always be one of the grasses sown, on account of its large product, tap root, and the fine condition in which it leaves the soil, weighs from 60 to 64 lbs. a bushel, and a bushel will sow from six to eight acres. The seed of timothy being small, one peck to the acre is sufficient. Orchard grass seed being chaffy and light, should be applied at the rate of from one to two bushels per acre, and herd grass or redtop as it is sometimes called, one bushel to the acre. There should always be at least two, if not three of these kinds of seed sown together to insure a good crop, so that if one partially fails, the others may furnish a supply of plants. The loss or failure of a crop of grass is too serious an affair to run any risk about that can possibly be avoided; therefore sow plenty of seed and of different kinds on the same ground, and if you don't raise your own seed, be careful of whom you buy, lest you get an impure or damaged article, for

Cheap seed is always the dearest in the end.

AGRICOLA.

N. B. Orchard grass is said to have stood the late severe drought the best, and timothy to have suffered the most by it of any of the artificial grasses; but it is perhaps yet too early to form a decisive opinion on this subject.

For the Farmers' Cabinet.

COMMUNICATED BY THE PHILA. AGRICULTURAL SOCIETY.

Peach Trees.

During the last century many fruit trees were hardy, and without special care lived and thrived through a long series of years, yielding abundance of fruit, while they are now subject to numerous diseases, which often destroy them before a single crop can be obtained. Those which suffer most are the morello cherry, plumb, apricot, and peach, the last a fruit that in this country is perhaps the greatest luxury our soil and climate produce; at all events none of the rarer fruits contribute in so many ways to gratify the palate as the rich and yellow peach.

Shall we give up to the cancerous worm, or poisonous insect, this delicious fruit, and acknowledge the ingenuity and perseverance of man no longer available? I trust our efforts will not cease till some certain means be discovered to protect this valuable tree, at least so far that by frequent planting, we may have a succession of good and sound fruit.

A great deal has been said and written on the subject, but no well defined and systematic course has been established within my knowledge, for the cultivation and protection of the peach tree, and I submit to the Agricultural Society whether it be not a subject worthy of their serious inquiry! Probably, by careful and deliberate investigation, such a system or method may be recommended, as will enable the farmer of Pennsylvania to add to his apple and pear orchard, the peach and the apricot, greater delicacies, in my estimation, than tropical climates afford.

My own feeble efforts and short experience give more encouragement than I had anticipated. I have two peach trees about 12 years old, which by a moderate degree of care are yet very vigorous, and have this year produced four or five bushels of excellent fruit. One of them unfortunately has been much injured by the weight of the fruit breaking down a large portion of the limbs.

The care which I have bestowed on them is to dig around the roots twice a year and clean the trunk well, cutting out all the worms that penetrated the bark, and rubbing the tree from the forks to the ground with a solution of potash every spring. I also apply the siftings of anthracite coal and coal ashes annually. This spring one of them showed strong symptoms of decline, and the leaves turning yellow; and the other became very gummy near the ground.

I attacked these enemies by tarring both trees with coal tar about a foot from the ground to the roots, which completely stopped the gumminess; I also applied the tar wherever any gum appeared. I then mixed unslacked lime and flour of sulphur in water and applied it to the roots, and also scored the trees from the first limbs down nearly to the ground, on the north side.

My trees are recovered, have borne a fine crop of fruit, and are now vigorous and healthy.

Whether all or a portion of this treatment was salutary will require further experiment to determine. In the spring of 1836 I planted about twenty young peach trees, and have treated them very much in the manner of the two large trees; most of them are growing well and look healthy. They have this year compensated me by a handsome yield of fruit, and if they can be kept alive and thrifty two or three seasons more, I shall, even in a pecuniary point of view, consider it a sufficient warrantee to raise peaches by planting new orchards every three or four years.

My trees are planted in the sod on light porous soil, and on the side of a hill with a small stream of water running near a part of them. Those which have the benefit of the water are much more vigorous than the others. The two old trees have a stream of water near their roots, which keeps the ground well moistened, but not wet. I am convinced that the water is of very great benefit, and that a plentiful supply of moisture to the roots by producing rapid vegetation, enables the tree to withstand and surmount the diseases to which it is liable.

I beg leave to exhibit to the society a specimen of the fruit: the dry season has ripened them rather prematurely, and those from the old trees are not so large as last year or the year previous, when they bore away the palm as the largest exhibited to the Horticultural Society. ALGERNON S. ROBERTS.

Fountain Park, Phila. Co., Sept'r, 17th, 1838.

For the Farmers' Cabinet.

Peach Trees again.

I am sorry that any remarks of mine should have disturbed the self-complacency of the "Old Farmer." I would not, by any means, "complain of the spirit with which he animadverts upon my communication," for "I calculate he is *an old man*—I should say *a very old man*." Yet, as gray hairs do not always cover a wise head, and as even the wise may, sometimes, entertain wrong notions of things, I would always wish (young as I am) to have the privilege of examining opinions for myself, let them come from what source they may;—and I would strongly recommend my readers to do so.

The communications of the "Old Farmer," embrace two very different subjects—the effects of a poisonous subsoil—and, the peach fly—yet, he has so confoundedly confounded them together, that I can hardly separate them.

No one will deny that an unhealthy subsoil will produce disease in the crop;—that poisonous food will poison a peach tree, or a ruta baga, as well as a man. The "immortal" experiments of Tull, and the "Old Farmer's" rotten ruta baga, completely prove what no body even doubted. But "what need is there of embarrassing so plain a subject," by connecting it with another, which rests on the writer's own naked assertions for support?—viz. That "putricity engenders life."—That, "until the juices of a tree become putrescent, no fly will deposit its eggs in it;—*instinct* teaching that no maturity will follow." That "a poisonous subsoil is the readiest way to bring about this state of things." And, therefore, "that the worm in the root of the peach, and the excrescence on the branches of the morello cherry, are not the cause, but the effect of disease, which arises either from a poisonous subsoil, or an exhausted surface." Here is the controverted question—the whole matter at issue. Does the peach fly and cherry insect attack their favorite trees when in health, or, only when laboring under disease!

The white head of my venerable opponent will enable me to follow him, in some of his discursive views, in support of the affirmative of the question. He asserts, "putricity engenders life." If so, why did not Tull's mint, and his own putrid ruta baga, "engender" a host of *living* devourers? But, is not *putricity* a condition of dead, instead of living matter! Is it not the *peculiar characteristic of the change from life to death?* It is contrary to reason, and fact, that any dead, or inorganic matter, should *engender life.*—Life can only be engendered, caused, or begotten, by life, or living matter.

He again asserts, "until the juices of a tree are become putrescent, no fly will deposit its egg in it." If so, why do the locusts deposit their eggs in the most vigorous, healthy trees, and sometimes speedily destroy them! Why does not the same *instinct* teach them "that no maturity will follow?" If he should retract the assertion, and so qualify it, as to embrace only the peach fly, it will require a host of evidence, not yet furnished, to establish such habitudes as peculiar to that insect. In those parts where my observations have extended, peach trees of all ages—in all situations—and with all varieties of soil and subsoil, have been obnoxious to the worm.

He "considers the fly, which deposits its egg in the tree, as fulfilling the great law of nature, in the vegetable, as the turkey buzzard is, in the animal world"—and so do I.—But what is this great law of nature? It is the instinct, propensities, habits, and feelings, which God has implanted in each, and every one of his creatures. These constitute the "great law of nature" which he has ordained to govern them, and which constrains each, and every one, according to its nature, to seek an appropriate dwelling for itself;—to provide food for itself and young, adapted to their wants; or, to place its tender charge where such food can readily be found. Obedient to this "great law of nature," the ox eats grass; the tiger thirsts for the warm blood of its victim;—the vulture seeks the putrid carcass—the ægeria feeds on the peach tree alone.—Will any one say the grass must become putrid, before the ox will devour it! That unless the blood is putrescent, it will not slake the thirst of the tiger! Neither can any one say, that the peach tree must become putrescent, before the worm can successfully nidify in it.

Again, he says "as oxygen is the basis of acidity, with which all putrid substances are

highly charged, so, calcareous substances (and especially lime, its natural opponent) are exactly calculated to produce the effects which are contemplated in my communication."—Passing over the dubious character of this statement, in a chemical point of view—how does it accord with the facts which experience affords? Has the peach tree became more healthy, and long lived, in those parts of the country where lime has been extensively employed, as a manure? The very reverse is the fact. Many of my readers will remember—young as I am, the period falls within my own recollection—when the peach tree flourished in almost every soil, and situation—when the peach fly was scarcely, if at all, known—and, when lime was very seldom and sparingly applied as a manure. They will also remember, that the people began to apply lime more extensively—the peach fly made its appearance—and, the trees began to decline! *almost simultaneously.*—The excrescences on the morello cherry are of more modern date. These remarks apply to the more improved parts of Pennsylvania. Now, it is a remarkable co-incidence, that the peach trees which had flourished well before, began to decline with the early use of lime, and has become almost extinct, in places where that mineral has been much used, as a manure. *Acidity*, cannot, therefore have caused the "disease," for it must have been greater before the use of lime began. *Lime* cannot be a *cure* for the "disease," for since its application, the malady has become more extensive, and inveterate. The "ferruginous and acidulous" soil of Jersey, may be rendered more fit for the growth of peaches, by the application of lime—but the reverse would seem to be true, in Pennsylvania. As the general decline of the peach tree, is, probably, owing to the operation of similar causes, in both places, we must look for some other reason, than the one assigned by the "Old Farmer."

I admit, then, that lime may neutralize the acidity of the soil;—but, I do not admit acidity to be the general cause of the decline of the peach tree;—nor, that this decline is the cause why it is infested with the worm. And, for reasons already assigned, I do not believe that lime will prevent the evil. The "worm," and the "yellows," are two great contemporaneous evils, which, probably, have no necessary connexion with each other. The worm does not inquire whether the devoted tree is sick or in health;—the yellows is not always followed by its ravages. Let us, therefore, persevere in our investigation of those maladies, so distressing to the lovers of good fruit. The causes once discovered, the appropriate remedies will be suggested by

Common Sense.

Chester Co., 8th mo., 28th, 1838.

To the Editor of the Farmers' Cabinet:

Sowing Wheat.

Sir,—Many persons are divided in their opinion with regard to the proper quantity of seed to be sown per acre. I have always found that if the land be clean and in good heart, and is sown early in the proper season, a considerable quantity of the seed usually allotted might be saved without risk to the crop. It was partly with the view of ascertaining how small a portion of seed would be sufficient for the purpose, that Mr. Miller conducted an experiment in the year 1766, upon wheat, the particulars of which may be found in the English Philosophical Transactions, from which I beg to copy them for insertion in your very useful and popular publication.

He began by sowing some grains of red wheat in June, and on the 8th of the following August, he divided one of the plants into 18 parts, and planted each separately; these were taken up and again divided, when the number produced was 67 plants; they were again planted separately, and another division of them made on the 12th April, 1767, produced 500 plants; they were then suffered to remain until harvest. The plants were in general stronger than the wheat in the fields; some of them produced upwards of 100 ears from a single plant. The whole number of ears produced from one grain of wheat, was 21,109, which is more than 42 on each plant. The total yield was 3¾ pecks of clean corn, weighing 47 lbs. 7 oz. which is at the rate of 63 lbs. 4 oz. per Winchester bushel. The total number of grains was 576,840, more than 1153 on each plant!

The land was a bad soil for wheat: one-half of it was very much dunged, the other half was not prepared with dung, or with any other manure. No difference, however, was discernible in the vigor or growth of the plants, nor was there any in their produce.

Respectfully, yours,

J. P.

For the Farmers' Cabinet.

Morus Multicaulis and Merino Sheep.

The introduction into our country of the valuable animals, fruits, and vegetables of other parts of the globe, is an object worthy the attention of patriots and philanthropists. But it is the nature of man to run into extremes in whatever he undertakes, and when an enterprise of any kind assumes the character of a wild speculation, it is the duty of those who wish to promote the general good, and also to place that enterprise on a permanent foundation, to check every attempt of mere speculators, who would force the busi-

ness far beyond a sound and healthy growth. Many instances might be cited of very plausible speculations, in which numerous individuals have been ruined both in property and character; for the injurious effects of the spirit of speculation on the mind, are not amongst the least of its evil consequences. It produces a feverish, unsettled state of mind, which prevents the pursuit of a regular and useful business; for how can a man whose brain is filled with projects by which he is to become suddenly possessed of his tens of thousands, pursue a steady manual labor employment which will produce him little more than a respectable living!

At the present moment, when a very remarkable speculation is carried on in Mulberry trees under the plausible calculation that the raising of silk is to become suddenly *the* business of the whole population of the United States, it may be considered rather presumptuous to call in question the propriety of this speculation, and to exhibit some of its probable effects. I hope, however, that the right of *free discussion* will not be denied even by those who are most deeply affected with the mulberry mania.

The pernicious effects of speculation, both on the individuals engaged in it and on the community, are so generally acknowledged, that I trust it is unnecessary to insist upon them; and yet since the raging of the morus mania, I have heard the monstrous doctrine advanced, that if a man has money to pay for what he purchases, or to discharge his bets at the gaming table, he can neither be called a speculator, nor a gambler. In my view, there is but little difference between a speculator and the gambler who is led on by small gains or losses until he becomes so perfectly infatuated, that he would venture the world, if he had it, on a single cast of the *die*.

Many of the readers of the Cabinet will doubtless remember the ruinous speculation which followed the introduction of Merino sheep, a few years ago. It was the general opinion that wool was to become immediately the grand staple of the country—every hill and valley was to echo with the bleating of sheep—every farmer was to raise the greatest possible number, and beyond all doubt, sudden riches were to be the portion of every inhabitant of these fortunate states. But it was only a certain kind of sheep, viz: the Merino—that was to accomplish this great object—and consequently the demand for them was to be almost unlimited until every farmer in the country became supplied. The most active and enterprising individuals who were caught with the fever, were of course anxious to secure the earliest supply, and make contracts to pay the most extravagant prices for all the merino lambs that could be furnished them within certain periods. The bubble, however, soon burst, and ruin followed to the infatuated speculators and the duped farmers.

Now, instead of wool, we are told that silk is to be the grand staple of our country; every female and all the children in the land are to be engaged in feeding the silk worms, and reeling the silk; we are all to become suddenly rich, and casting away our rough woollen garments, and our vile cotton and linen fabrics, our precious bodies are to be wrapped in soft, silken folds! And as a particular kind of sheep was to work the wonders of wool, so it has been discovered that no kind of mulberry but the *multicaulis* is worth planting for the purpose of raising silk, notwithstanding the experience of other countries to the contrary. From this great discovery has resulted one of the most remarkable speculations of the age. It is rapidly extending amongst all classes, and in my view, is assuming an alarming character. We hear daily reports of individuals who have *made* their thousands and tens of thousands of dollars, rising suddenly from poverty to wealth, and the storekeeper, the farmer, the mechanic, the clerk, the teacher, are dazzled with the golden vision, and rush from their useful employment into the grand speculation. What, let me seriously inquire, is to be the end of all this? Is it not time to pause and examine the foundation upon which this new Babel is attempted to be built? That the raising of silk is an object of great importance, and also attainable in this country, will, perhaps, be generally admitted; but that it is to be universally adopted this year or next, and that it will be so profitable as to justify the present extravagant prices of the multicaulis, is not quite so clear. We are told, indeed, that the fact of three legislatures having offered a premium on all cocoons raised within their several states within certain periods, is proof enough that the *silk business* will be permanently and profitably established. It must be recollected, however, that the members of those law-making bodies are men of frail judgment, like ourselves, and may possibly be influenced by other motives than those purely patriotic, in the exercise of their legislative duties. It is well known that a number of active mulberry speculators were busily engaged during the last winter, in *boring* the members of one of these legislatures, and it seems highly probable that they were pretty thoroughly inoculated with the mulberry fever, for it is said that after passing the premium law, many of the members hurried home to plant mulberries and make their fortunes—not by raising cocoons, but by selling trees!

It would be prudent for those (if there are any such,) who intend to plant the morus

multicaulis for the purpose of feeding silk worms, to inquire whether it is so entirely acclimated that by no possibility their whole plantations could be destroyed, root and branch, by a very severe winter. It is well known that the whole of the tree that is above the ground, is frequently, if not generally, killed in this latitude by the frost; and from this it seems quite probable that an unusually cold winter, or one of great extremes of heat and cold *might* destroy the roots. I believe it is a universal practice amongst those who cultivate the multicaulis for sale, to dig them up in the autumn and secure them, snug and warm, in cellars or other places where Jack-frost cannot lay his hand on them and spoil the golden dreams of their owners. I would, therefore, say to the *silk growers*, plant at least one-half your stock of the white Italian or some other hardy variety.

In the next place, it is to be presumed that every prudent person who wishes to engage in raising silk, will calculate the cost; and I think he will find that the prices at which the morus multicaulis are sold, are not only far above their real value, but much higher than a silk grower can afford to give. They are so easily and rapidly propagated, that if no speculation existed and the demand was confined, as it ought to be, to the silk grower, they could be purchased at one-fiftieth of the present prices.

After considerable inquiry, I believe that of the many thousands of trees sold in Philadelphia last spring, very few, if any, were purchased for any other purpose than speculation. If a farmer, or any person who has a few acres of land, wishes to raise silk, and thinks it desirable to have say one thousand mulberry trees, is it to be supposed that he will go to a speculator and buy that number at once, paying him $750 for them? Would he not rather purchase one hundred, and by proper management raise one thousand from them in a single summer! But here I am told that he is losing time and the state premium, and that it is all important to go at once into the business if he expects to make his fortune. A very simple calculation will refute this doctrine. The difference between the cost of one hundred and one thousand mulberry trees at 75 cents each, is $675, which sum a farmer will save in one summer by cultivating his one thousand trees himself. Suppose, on the other hand, that he purchases one thousand trees at once, how many cocoons must he raise to repay him his $675! and what an amount of care and labor will they cost him compared with the propagation of one thousand trees. It seems evident then that where all are planting and propagating trees to sell, and none are purchasing to feed silk worms, the trade must soon come to a close; and happy, I believe, it would be for the community, and for hundreds now engaged in the speculation, if this were speedily to happen. There are individuals within my knowledge who wish to venture all they have and more in the speculation, hoping it will continue another year at least, and richly repay their risk; thus they and thousands more will be led on to ruin. I have met with very few speculators who believe that the present extravagant prices can be long maintained; but they say we will make our fortunes while the fever is up. Let me ask them whether there must not be, eventually, a loss sustained somewhere, equal to the whole amount of gain which they have put into their pockets.

In throwing my views on this subject before the readers of the Cabinet, I wish to call their serious attention to it, hoping the great and rapidly increasing evil may speedily be arrested. I am opposed to all speculations—in the common acceptation of the word—believing them to be highly injurious to those engaged in them, ruinous to the community, and in the end, destructive to the interests and success of whatever may be made the subject of them.

For the Farmers' Cabinet

Blue Mud.

Mr. Editor,—There is an article on our salt marshes called *the blue mud*, which doubtless possesses many fertilizing properties. Several farmers have endeavored to experiment with it in their agriculture, but these have been very few, and their experiments quite limited. Where the article has been exposed to severe frost, say one winter, (the object is to pulverize it) and applied to corn in the month of May, when it is two inches out of the ground, it has had a very fine effect. The corn being three times as good where this mud was applied, than in any other portion of the field. If this article is a valuable manure, we have an inexhaustible store—and need not fear the apparent increasing poverty of our lands.—The probable properties are sea salt, oil and sulphur. Some suppose it is the washings of the upper country, having a clay basis. This seems improbable from the fact that when a ditch is dug, where the tide has access, it will be filled in a very short time with this substance. But what renders it difficult to determine is the clay accompanying it; it is affirmed that the sea does not deposit that.—As it will be a cheap manure, and easily obtained by every farmer, whether proprietor or rentor of land, if found to be valuable, my object is to elicit information through the pages of the Cabinet. I hope some gentleman who is acquainted with the deposits of

the flood tide, (as this is the tide bearing to our shores) will give us an essay on the subject, and whether he has thoroughly investigated it or not, any additional knowledge of its properties will be gladly received by the farmers of Kent county, Delaware. If any gentleman having experimented with it on his land, will give us the result of the same, it may help agriculture onward. At present there is a spirit of agricultural improvement in Kent county—and a dwindling away of that prejudice so long fostered against agricultural papers, in so much—that almost every farmer is patronizing or anxions to subscribe for some good practical journal. It is therefore a matter of interest to the proprietors of the Cabinet, as well as the farming community at large, to enrich the pages of their work with articles of utility. Your friend,

A SUBSCRIBER.

Dover, Kent Co., Del., Sept'r 15th, 1838.

For the Farmers' Cabinet.

Sheep Husbandry.

MR. LIBBY:—

Dear Sir,—In the August number of the Farmers' Cabinet, I was much interested with the paper of your correspondent T. D., of Burlington, N. J., on "Soiling Neat Cattle;" and as about the time of the publication of that number, I received an answer to some inquiries made into the same subject, "*On Sheep,*" if you deem the correspondence of sufficient interest for your journal, it is at your disposal. Mr. Pennock's method of *rearing* and *soiling sheep* corroborates the views taken by T. D., and the advocates of this system in England and other agricultural countries; not only as it respects neat cattle, but sheep. He also confirms the arguments of Baron De Bulow, as it regards the *quality* and *value* of the manure thus obtained; the greater protection a flock of sheep enjoys thereby from the annoyance of flies and other insects; and their relief from the heat of a summer sun, all of which, to say nothing of the security of fine sheep from destruction by dogs, is of vital importance to every farmer.

Independent of these reasons in favor of the *Soiling System*, Mr. Pennock clearly shows, the more sheep a farmer can keep in this way, the *more manure* he can make, and as a consequence on a *grazing farm*, the more cattle he can feed, and on a *grain farm* the greater will be his crops in proportion to the abundance and good quality of his manure.

Yours, truly,

JAMES W. THOMSON.

From the Transactions of the New Castle County Agricultural Society.

On Soiling Sheep.

Wilmington, June 21, 1838.

MR. MOSES PENNOCK:—

Dear Sir,—Since communicating to the May number of the "Farmers' Cabinet," Mr. Bayne's method of "Stall-feeding Sheep," an intelligent friend of yours informed me that you had a different plan for the same purpose, peculiar to yourself, on which you *had practised* with success for some years past; and that it consisted principally in soiling or keeping up your sheep in *summer* and *winter*, and not permitting them to graze or run at large; thus saving your flock from the depredation of dogs, securing to the barnyard all their manure, and giving you the additional advantage of being always ready to supply the butchers, at any season, with fat mutton. The New Castle County Agricultural Society has directed me to address practical and intelligent farmers, and to obtain for its benefit all such information as I now seek from you. If, therefore, you are so disposed as to favor us with your mode of keeping and fattening sheep, (now a subject of much interest with us,) it will be duly appreciated by us, and prove, I have no doubt, interesting to our farmers generally. The plan of keeping up sheep in this county the year through, has been considered *expensive* and *impracticable*. *Your experience*, I am informed, leads you to different conclusions. Hoping to hear from you soon on the subject, I shall await with interest your reply to this communication.

Very respectfully, your friend,

JAMES W. THOMSON,
Cor. Sec. Ag. Soc. N. C. Co.

Kennett Square, 8th mo. 19th, 1838.

Respected Friend,—

Thy communication I received this day, dated 21st of 6th mo. last, desiring information relative to keeping sheep during the hot season of the year. The sheep that I tried the experiment on were full merino. In the forepart of 6th mo., 1835, I confined about 60 of those, including ewes, lambs, and wethers, under a well ventilated shed for nine weeks, except about two hours morning and evening I let them run at large in an adjoining lot to get water and exercise themselves In 1836 and '7 I kept 70 under the same shed

for 12 or 13 weeks each summer during the hot season, feeding them three times per day, principally on clover grass cut in the morning while the dew was on. Every 8 or 10 days, I had their pen covered about one inch thick with loam and on that a good littering of straw; this with the remnant of grass the sheep left was spread over at each feeding and kept them clean. The loam was put over for the purpose of sweetening the pen and to prevent heating so as to injure the sheep, as well as to increase the manure by absorbing the urine, &c. Those sheep were not designed for the butcher, although some of them became very fat, and I have reason to believe that sheep will feed in a shorter time in the hot season of the year if rightly cared for in this way, than to run at large, for in warm days they lay in the shade, feeding only morning and evening, but under a cool shed they will feed freely at any time through the hottest day.

Those sheep, attended as above described for 12 weeks, made thirty large ox cart loads of as good manure as any produced by horses or cattle, which I consider fully compensates for the trouble.

One acre of good ground with red clover kept the above sheep 13 weeks last summer, and kept them well. This acre we mowed once, and about two thirds over the second time; the remainder going to seed, I let them run at large. I am satisfied that two acres of grass equally as good would not keep the same number of sheep for the same length of time, as they destroy as much grass with their feet as they eat. The sheep were more healthy, less subject to scour when kept in, than when they were out in the hot sun, heavy dews and rain; producing as much wool of quite as good quality, as well as more secure from the depredations of the dogs. Very respectfully thy friend,

Moses Pennock.

James M. Thomson, M.D. Cor. Sec'y. Agr. Soc

To the Editor of the Farmers' Cabinet.

Experiment to raise Lambs twice a year from the same Ewes.

Sir,—Having heard that the pure bred Dorsetshire ewes would infallibly bring lambs twice in the same year, I purchased, for the purpose of making the experiment, seven ewes on the 2d of December, 1825. They were all in lamb, and by the 28th of that month had yeaned nine lambs. The first of these ewes lambed the second time on the 2d day of July, 1826, the remaining six by the 26th of that month; they brought seven lambs. By the 14th of March 1827, five of these ewes had lambed the third time, the remaining two on the 29th day of April, and produced, at the third lambing, *twelve healthy lambs.* Thus these seven Ewes, in 17 months from the time of their purchase, brought me 28 lambs, which were all reared in health, and were sold, the first lambs for a guinea and a half each, the second lambs for a guinea each, and the third were sold with the ewes as couples. Besides the 28 lambs, I had a fleece of wool from each of the ewes at midsummer.

Yours, respectfully,

J. P.

For the Farmers' Cabinet.

Subdividing a Farm properly, &c.

It is a matter of no small importance, and it requires much skill and judgment to lay off a farm properly into fields and inclosures so as to realize the greatest possible advantage by it, in regard to convenient access, equal size of inclosures, and convenience in watering of stock. The saving of fencing is also a matter of considerable consequence, both as it regards the expense in the first instance, as well as that occasioned by subsequent repairs.

Fields for cultivation should be rectangular, and the nearer they approach to a square, the less fence they require. The inclosures intended for a regular rotation of crops should be as near of the same size as practicable, and the number of acres in each field should be accurately ascertained, and a register kept of it. The importance of having the fields to contain each a known number of acres, is of much consequence in manuring, liming, plastering, and in sowing grain and grass seeds, and also in determining the amount of produce per acre, as well as enabling a farmer to judge correctly of the amount of labor bestowed on a given space of ground. All of these matters are too often *guessed* at, and sometimes the guessing is so coarse as to lead both the proprietor and his friends into great errors of judgment. Fields being of equal dimensions, furnish the same amount of labor each year, in tilling them, produce as near as human means can effect it, the same amount of products, and give the ability to distribute the manure with an equal hand over the whole farm.

Although many farms are beautifully laid off into fields so as to attain the objects above stated in an admirable manner; yet there are many others, so cut up as not to indicate much intelligent design in its accomplishment, either in respect to convenience, or the due apportionment of the respective inclosures. Where this is the case a system should at once be adopted, the tendency of which would be in a few years to regulate and correct it.—There is something so incongruous in one year cultivating a large field and the next a small one, that it cannot be duly appreciated, except by one who has made trial of it; for one

season your force is not adequate to your work, and the next it is superior to it. It is continual up and down hill work, and the larger fields suffer for want of an adequate supply of manure, and sometimes from insufficient culture.

Thorough culture always ranks first in agriculture; *manure* next, and then follows good crops and prosperity, which maketh the heart of the farmer glad, and stimulates him to renewed exertions in promoting the fertility of the soil, and by that means increasing the sum total of animal existence and enjoyment.

When fields are elevated above neighbors' grounds, heavy rains carry the finest, richest particles of the soil on to them, but this kind of trespass has not often been found to destroy good neighborhood; if it should unfortunately do so, a small gutter made near the line fence or a few stones judiciously arranged under, near, or against it, will generally correct the evil, and no doubt promote the interest of the more elevated farmer, by keeping within his own inclosures the food which his own crops may be the more luxuriant for partaking of. Those who have had the benefits of the washings of their neighbors' fields, can form some estimate of its importance, for

"What is one friend's loss is another's gain."

AGRICOLA.

For the Farmers' Cabinet.

Italian Spring Wheat.

DEAR SIR,—I think one of your correspondents in the last number of the Cabinet, has been rather too severe upon spring wheat, and that what he has said may tend to prevent a fair trial being made with it. For my own part, I have earned my experience with Italian spring wheat at a dear rate, having sown upwards of thirty bushels, for which I of course paid a very high price, and reaped scarcely three for one. With the exception of a very small portion sown a day or two before the great storm in March last, the rest failed almost entirely, though it looked very well about the middle of June, and without any sign of the fly. But the hot sun which struck upon the crop in the second week of June and continued until long after harvest, seemed to dry up the sources of nourishment, and leave the stalk with a dwindled and almost empty head. A week or ten days start would have afforded a very fair crop of this spring wheat, and even that which was sown earliest proved a very decent yield; the strawing being uncommonly bright, and the wheat beautiful. It will be recollected that the frost was very late in leaving the ground last spring. A trial made in such an unprecedented season should not be considered decisive, as every thing which ripened late, even the winter wheat, suffered from the heat and drought. Upon the same principle we should give up planting corn and potatoes. I shall, therefore, next year make another trial of the Italian spring wheat, which I know did so very well the previous season. My seed was purchased through agents, of persons in the state of New York. One barrel was, however, very dirty trash, hardly worth sowing, and the measure of all the barrels fell short of the quantity paid for, both as to weight and measure. In future I shall always be willing to pay even a little more for the certainty of fair measure, especially when the article has attained an exhorbitant price, as was the case with the wheat in question. G. E.

September 19th, 1838.

For the Farmers' Cabinet.

Duties performed by a good Farmer.

Every duty faithfully performed hath its reward.

The approach of winter always induces the thoughtful, careful and industrious farmer to look about him to see that he is prepared to meet so boisterous and inclement a season of the year in the best possible manner. His windows, his doors, and the roofs of his buildings, are all examined, and if necessary, made tight and secure. His barn and stables are looked to and put in good order. His sheep, and hogs and poultry have all comfortable, dry lodgings prepared for them in due season, for he knows that no animal can thrive and do well, that is not well housed, and well fed, and every way made clean and comfortable. His potatoes, his sugar beets, his turneps and all his winter fruits and vegetables are well secured against frost and placed in such positions that ready access can be had to them when necessary, without subjecting them to danger of injury by exposure to the weather. His fuel is so arranged and prepared for current use that his family can procure it without any unnecessary exposure to the rude blasts of winter. His fields and meadows are kept closed during the winter and early part of spring; so that animals may not be permitted to ramble over them and injure his grounds. His barn yard is so arranged that his cattle never leave it during the period of winter feeding, by which means he saves all their manure for the nourishment of his crops. His implements of husbandry and tools are all carefully housed and arranged in good order, so that they can be had when wanted for use. His garden, in which not a weed has been permitted to perfect and scatter its seed during the autumn, is thrown up into ridges about eighteen inches high, separated only by trenches extending from end to end of the beds; this he knows exposes the soil to the meliorating influence of the frost, destroys

the grubs and worms which seek refuge during the winter, deep in the ground, and induces the ground moles to look out for dryer and warmer lodgings elsewhere. By this plan of ridging his garden in the fall, as soon as the frost is out in the spring, his beds are dry and warm, and admit of being levelled and worked at once, long before flat, wet ground can with propriety be moved by the spade; this enables his family to have a supply of garden vegetables several weeks earlier than those who have less intelligence or industry; the deeper tilth and more thorough pulverization of the soil, also increases the growth of his plants, and enables them the better to protect themselves against the contingencies of either very dry or very wet seasons.

During the evenings that are now growing long his wife and daughters are industriously engaged in light but necessary household duties, while the boys are reading instructive, useful books, and among them the Farmer's Cabinet occupies a conspicuous place, both on account of its variety and its practical utility; this furnishes texts for rational and improving conversation, which cultivates and improves their minds and warms their affections, and produces on them even a greater effect, than ridging and trenching the garden does on the vegetables. On the Sabbath, he with his family attends a place of worship, to obtain religious instruction and consolation, deeming that of infinite importance to himself and those about him. The good farmer has his mind often turned in reverend thankful acknowledgements to the Great and Good Husbandman, his landlord, under whom he holds his tenure, and who, he knows, will at some period not very remote summon him to appear before him to give an account of his stewardship when he shall be no longer steward: he therefore endeavors to preserve himself and his family in a state of preparation for the great summons that will warn him off, so that he may appear with joy, and not with grief, to render an account to his great benefactor and master of the deeds done in the body, whether they be good, or whether they be evil.

ABRAHAM.

For the Farmers' Cabinet.

Preparation of Food for Hogs.

To make the most of any thing is good economy.

It is a general opinion and believed to be founded on correct observation, that the food given to hogs ought to be slightly soured, in order to produce the greatest possible effect in improving their condition. In corroboration of this opinion, in Germany and some other parts of Europe, horses are fed on bread that has been fermented so as to be a little soured, and it is said to be more economical than feeding them with grain. Bread, which is brought by the process of fermentation very near to the point of acidity, and that in general use amongst our German population, quite to that point, is well known to be more wholesome and much more nutritious than unleavened bread.—Hence it is not unreasonable to suppose that all farinaceous substances fed to animals would be more economically and beneficially applied by being first slightly fermented. In order more effectually to accomplish this object in preparing food for hogs, two tubs should be procured of such size as would be adapted to the number to be fed, in which to prepare their food; these should be used to feed from alternately; the materials in one would be undergoing the necessary preparation, while feeding from the other. The weather being generally cool while hogs are fattening, the process of fermenting progresses slowly, and if it is very cold it is entirely suspended, unless artificial means are resorted to, to keep it up. Pieces of stale, or mouldy bread that are no longer fit for family use, and which find their way into the swill tub, are uniformly found to put the whole contents into a state of fermentation, if suffered to remain for a few hours. This has suggested the opinion that a small quantity of yeast, which is a cheap article, might with advantage be added to the contents of the tub containing the food for swine, in order more quickly and thoroughly to bring it into a complete state of fermentation and advance it to slight acidity before it was fed. This addition need not be often made, provided the tub was replenished with food before it was quite emptied of its fermented contents, and in this way it could be kept up during the feeding season. Corn or other grain that has been steamed, boiled, or well soaked is very susceptible of the influence of yeast. Starch makers and distillers use it in order to prepare the grain, so that they can extract their respective articles of manufacture from it with more facility, and in greater quantities; and it appears reasonable to suppose that the stomachs of animals would have their labor abridged, and would be enabled to extract a greater quantity of nutriment from a given quantity of grain or vegetable matter thus prepared, than when it is fed to them in the usual way.

The stages of fermentation are the saccharine, the vinous, the acetous, and the putrifactive; the first is exhibited in malting of barley, which is rendered sweet by it; the second shows itself in the working of cider and beer; the third is noticed in the souring of bread, and in the formation of vinegar, and the fourth is discovered in the decomposition of bodies generally. In the preparation of food for hogs, it is believed it should advance to the third stage, but not pass through

it, for after it enters the fourth and last stage of fermentation, it would be very prejudicial to the health of animals, and could not contribute to their nourishment in any way whatever.

These hints are thrown out to elicit information from farmers, who will soon be engaged in fattening their hogs, and if any experiments or observations should be made by them that would enlighten or instruct their brethren who are engaged in the same laudable work, it is desired that they may be communicated through the Farmers' Cabinet, for we now have a channel of communication with each other, which it is presumed will be useful to all, if it is made a proper use of.

T. ———.

Preserving Winter Apples.

Winter apples should be gathered as soon as the mature ones begin to fall from the trees; they should be carefully picked by the hand, and never shaken from the tree. If intended to be carried to market this fall, they may be packed in chaff or soft straw to prevent bruising. But it would doubtless in most instances be more profitable to keep apples till spring, on account of their high price at that time. The same apples that are sold in autumn for twenty-five cents, often, when kept till spring, bring seventy-five cents or a dollar per bushel; while the loss by rotting, when proper precautions are taken to preserve them, is but comparatively trifling. An excellent mode of preserving them, is to pack them away in dry sand. The sand should be previously well dried in the sun. This mode prevents them from rotting one another by contact, the sand absorbs all unnecessary moisture from the fruit, and thus lessens the liability of rotting; and partially excludes the air. Well dried saw dust would probably be still better, provided it is prevented from absorbing moisture by being excluded from the air; but it should be of a kind of wood which will not injure the flavor of the apples.

Where this method cannot be adopted, a good way to keep them is to spread them in shallow bins, say (five or six inches in depth,) in a dry cool place, where the temperature should be kept as nearly as possible a little above freezing.

The following, according to Kenrick, is a mode of preserving apples, almost universally adopted by the most experienced in the vicinity of Boston, where large quantities of fine winter fruit are cultivated and put up for use. By this mode, we are assured, apples under very favorable circumstances, are frequently preserved in a sound state, or *not one in fifty defective*, for a period of seven or eight months. "The fruit is suffered to hang on the tree to as late a period as possible in October, or till hard frosts have loosened the stalk, and they are in imminent danger of being blown down by high winds; such as have already fallen are carefully gathered and inspected, and the best put up for early winter use. They are carefully gathered from the tree by hand, and as carefully laid in baskets. New, tight, well seasoned flour barrels from the bakers, are usually preferred; the baskets being filled, are cautiously lowered into the barrels and reversed. The barrels being quite filled, are gently shaken, and the head is gently pressed down to its place and secured. It is observed that this pressure never causes them to rot *next the head*, and is necessary, as they are never allowed to rattle in removing. No soft straw or shavings are admitted at the ends; it causes mustiness and decay. They are next carefully placed in wagons and removed on the *bulge*, and laid in courses in a cool airy situation on the north side of buildings near the cellar, protected by a covering on the top of boards, so placed as to defend them from the sun and rain, while the air is not excluded at the sides. A chill does not injure them, it is no disservice; but when extreme cold weather comes on, and they are in imminent danger of being frozen, whether by night or day, they are carefully rolled into a cool, airy, dry cellar, with openings on the north side, that the cold air may have free access, they are laid in tiers, and the cellar is in due time closed and rendered secure from frost. The barrels are never tumbled or placed on the head. If fruit is gathered late, and according to the above directions, repacking is unnecessary, it is even ruinous, and should on no account be practiced till the barrel is opened for use.—It has been fully tried.—*Genesee Farmer.*

For the Farmers' Cabinet.

Food for Plants.

Vegetable mould or earth when brought into a state of solution furnishes food for plants, and enters into their composition and structure; plants furnish food for other plants and for animals, and become animalized by the process of digestion; consequently animals are manufactured out of vegetables by a process of which we are ignorant; and when animals die and are decomposed by the agency of heat, moisture and air, they are reduced again to the elements which constitute the food of plants, and so proceed, on the same round again of producing a new generation of plants and animals; and this rotatory system has been in operation from the creation of the world to the present time, and so will continue till time is no more; the quantity of matter always remaining the same, though its form and combinations are constantly undergoing a change.

On the Varieties, Properties, and Classification of Wheat.

[Continued.]

ON THE ROOTS AND GROWTH OF WHEAT.

It has been stated that wheat, when sown in November or December, appears in seventeen or nineteen days. An excellent article in the Georgical Essays, led me to repeat a course of experiments made by the author, who speaks of them in the following manner: "It is not sufficient for a farmer to be acquainted with the nature of different soils; he should be acquainted with the nature of such plants as are used in field husbandry. The soil and roots are so intimately connected, that the knowledge of both becomes essential. Wheat has two sets of roots: the first comes immediately from the grain, the other shoots from the crown some time after. I shall distinguish them by *Seminal* and *Coronal* roots.

"Plants, according to their species, observe a regular uniformity in the manner of spreading their roots; for which reason, the same grain cannot be continued long upon the same soil. Is it not that each takes from the earth such parts as are congenial? The food of all plants is the same; only some require more, some less; some take it near the surface, others seek it deeper. This opens to our view a noble field of instruction. A careful inspection of a healthy root, will at once demonstrate the bias of nature. An examination of the soil will show how far that and the roots will coincide.

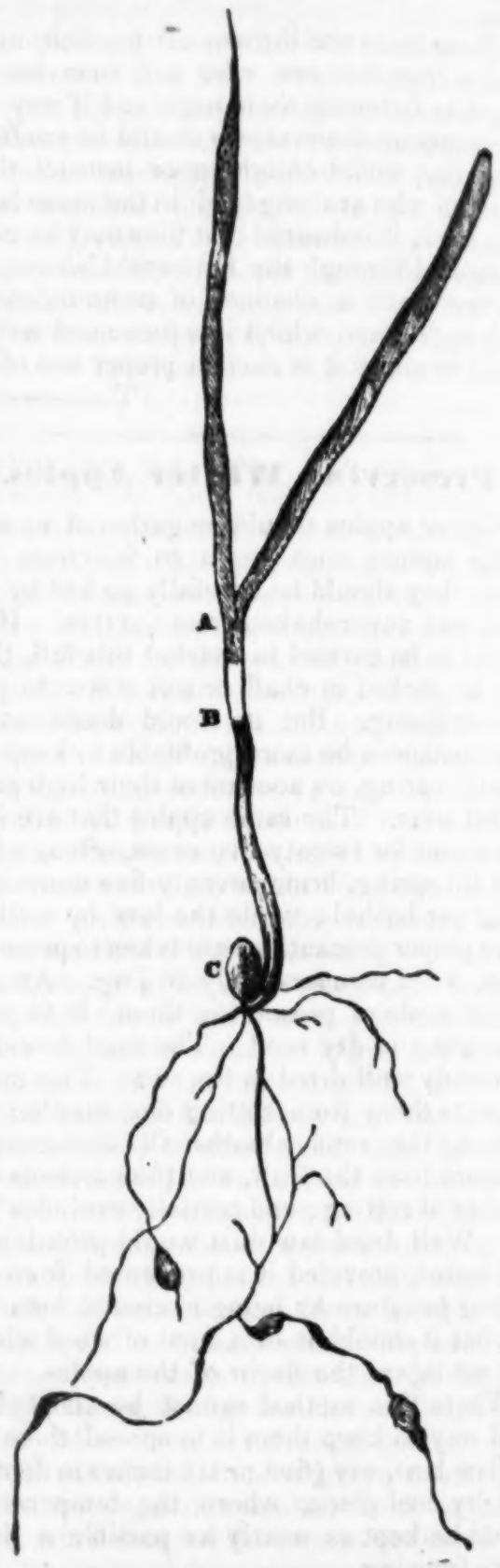
"This is the rational basis of the change of species so well understood in Norfolk, where taprooted plants always follow those that root superficially.

"Wheat being subject to the severity of winter, its roots are wonderfully disposed to withstand the inclemency of the season. A view of their shape will direct us in the manner of sowing that grain to the most advantage; and at the same time enable us to account for some of the phenomena observable in the growth of it. I have observed that wheat has a double root. The first, or *seminal* root, is pushed out at the same time with the germ, which, together with the farina, nourishes the plant, until it has formed its crown."

As I think I have followed the same course of experiments with even more care than the author of the above extract, I shall state my own observations in corroboration of it.

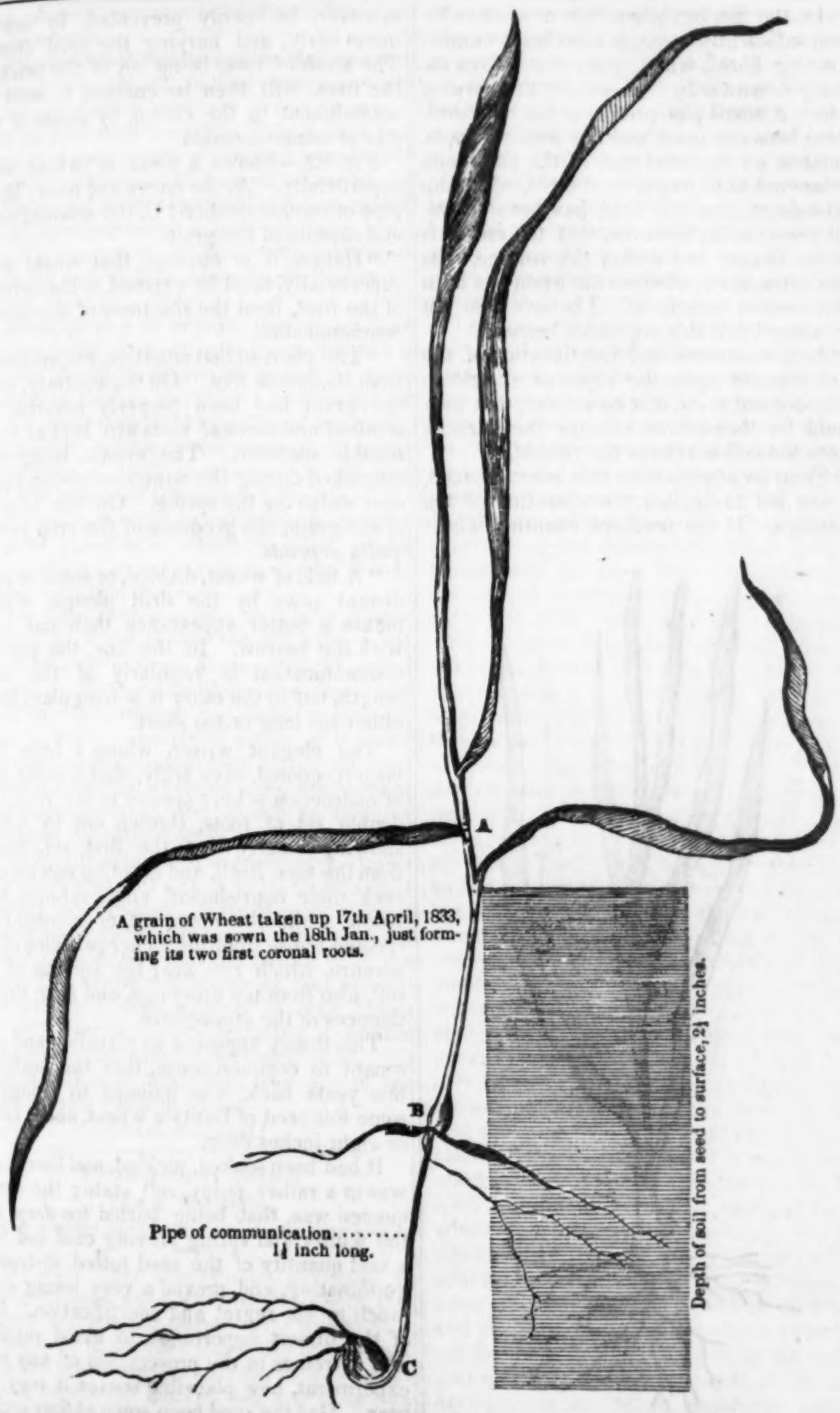
[Fig. 19.—A grain of wheat sown on the 12th January, 1834, was in this state the 27th January following; 16 days sown.]

Fig. 19.—Appearance of a grain of wheat which had been sown three inches deep, on the 12th January, after sixteen days growth, with its germ and seminal root.



[Fig. 20.—A grain of Dantzic wheat sown on the 7th December, 1832, and taken up on the 1st February following, had not yet formed its coronal roots.]

Fig. 20.—Appearance of a grain of wheat after fifty-two days growth, the coronal roots not yet having pushed; A, the origin of the crown from which the plant tillers; B, the pipe of communication, covered with a membranous sheath; C, the grain with its seminal roots.


A grain of Wheat taken up 17th April, 1833, which was sown the 18th Jan., just forming its two first coronal roots.
A
B
C
Pipe of communication.....
1¼ inch long.
Depth of soil from seed to surface, 2½ inches.

[Fig. 21.—Exact in dimensions after Nature. I. Le Couteur, 18th April, 1833.]

Fig. 21.—A grain of wheat after sixty days growth, just forming its upper set, or coronal roots. This was sown about three inches deep, thus the plants having been drawn from nature, and being exact in dimensions, show its process. A, the crown of the plant beginning to tiller; B, two coronal roots, an inch below the surface; C, pipe of communication to the seed, one inch and a half long.

"In the Spring, when the crown has become sufficiently large, it detaches a number of strong fibres, which push themselves obliquely downwards. These are the *coronal* roots. A small pipe preserves the communication between them and the *seminal* roots. It makes an essential part of the plant, and is observed to be longer or shorter, according to the depth that the seed has been buried. It is remarkable, however, that the crown is always formed just within the surface. Its place is the same, whether the grain has been sown deep or superficial. I believe I do not err, when I call this *vegetable instinct.*

"As the increase and fructification of the plant depends upon the vigorous absorbtion of the coronal roots, it is no wonder, that they should fix themselves so near the surface, where the soil is always the richest.

"From an attention to this circumstance, we are led to explain the operation of *top dressings.* In the northern counties, wheat

Fig. 22.

is generally sown late. When the frost comes, the *coronal* roots, being young, are frequently chilled. This inconvenience may, however, be easily prevented, by sowing more early, and burying the seed deeper. The *seminal* roots being out of the reach of the frost, will then be enabled to send up nourishment to the crown, by means of the pipe of communication."

Fig. 22,—Shows a plant of wheat sown superficially. A, the crown and roots; B, the pipe of communication; C, the *seminal* roots, and capsule of the grain.

"Hence, it is obvious, that wheat sown superficially, must be exposed to the severity of the frost, from the shortness of the pipe of communication.

"The plant in that situation, has no benefit from its double root. On the contrary, when the grain has been properly covered, the *seminal* and *coronal* roots are kept at a reasonable distance. The crown, being well nourished during the winter, sends up numerous stalks in the spring. On the tillering of the grain, the goodness of the crop *principally depends.*

"A field of wheat, dibbled, or sown in equidistant rows by the drill plough, always makes a better appearance than one sown with the harrow. In the one, the pipe of communication is regularly of the same length, but in the other it is irregular; being either too long or too short."

The elegant writer, whom I have thus largely quoted, says truly, that a noble field of instruction is here opened to our view; the double set of roots, thrown out by wheat, showing clearly that the first set, formed from the seed itself, and shooting downwards, seek their nourishment and freshness from below, while the upper set, or coronal roots receive theirs from the richer particles of the manure, which rise near the surface of the soil, also from top dressings, and from the influences of the atmosphere.

This theory appeared so plausible and consonant to common sense, that the author, a few years back, was induced to plough in some fine seed of Dantzic wheat, about seven or eight inches deep.

It had been soaked, pickled, and limed, and was in a rather pulpy, soft state; the consequence was, that being buried *too deep*, and the winter and spring proving cold and wet, a vast quantity of the seed rotted instead of germinating, and proved a very losing crop, much to his regret and mortification. It is of the utmost importance to avoid running into extremes in the prosecution of any new experiment, how plausible soever it may appear. Had the seed been sown at four inches depth, it probably would have all germinated, or even had it been less soaked, and pickled a less time. But the intention was to have the seminal roots at as great a distance from the coronal roots as possible, in order that

their nourishment should be drawn from opposite sources.

The medium distance has ever since been followed from three to four inches, which appears to answer perfectly in this climate.

It may be well to notice, that nature has in some measure pointed out that wheat may be sown quite superficial, as self-sown wheat is frequently seen very rich and fine, under which circumstances it may not have been buried a quarter of an inch, even supposing the wind and rain to have favored its deposition.

Hence, it may be argued, that wheat does not require to be sown very deep, but that a medium depth, sufficient to protect it from frost, so as also to enable its distinct set of roots to seek their food in different channels, is the safest practice; the exact depth being a question of local experience, in relation with the nature of the soil and climate.

The extraordinary and valuable propensity of some varieties of wheat, to tiller, which others will by no means do so much, is connected with this chapter.

One plant from a single grain of a downy variety, in 1833, threw out 32 tillers; all produced ears with an average of 50 grains to each, or 1600 grains from one; an enormous produce, which no field cultivation could be fairly expected to attain, as it is not the extraordinary quantities, which art may produce, either by extreme care, subdivision, and transplantation, that should be brought under the consideration of farmers; but the fair and legitimate mode of husbandry, attainable to all who will devote to its pursuit that industry and inquiry, without which, their art is a mere mechanical operation, throwing in a little seed, and leaving nature to do the rest. The average tillering on that productive variety I have alluded to, was *fifteen* on forty plants, clearly evincing a prolific habit which has since been established. To ascertain this prolific habit, was one of the great objects I had in view.

[To be continued.]

For the Farmers' Cabinet.

Bad Times.

Wrong practice has its origin in wrong principles of action.

We often hear the opinion advanced by young farmers, and sometimes by others, that agriculture is a bad business, no money is to be made by it, that the times that have passed by were much more propitious to the acquisition of property, and in fact that it is now ebb tide wi h us, the golden stream having ceased to irrigate our fields. These opinions give rise to despondence, which in some constitutions produce a high degree of indolence; in others it excites to unsettlement in business, and creates a desire to enter on some new and untried project which it is supposed will produce a reflow of the golden streams, which it is taken for granted have for some years been dried up. This unsettlement in business, and disposition to try new experiments has been the entire ruin of thousands of people in our country within a few years. Persons leave occupations that they have been brought up to and understand something about, and embark in some new and untried concern that they are wholly ignorant of, in the fond hope of realizing some golden dream, at the same time entirely forgetting that old and sound maxim, that *there is no learning a new trade without paying an apprentice fee.* I know many, who have paid every cent they were worth in the world as an apprentice fee for learning a new business, and were not successful in acquiring it at last; and were landed in insolvency and ruin in the bargain, and their noses kept hard pressed on the grindstone during the remainder of their lives as a punishment for their folly in deserting an honest and honorable calling which has always rewarded those who have pursued it with industry, diligence, care and economy, with a comfortable and even luxurious subsistence, moderate and wholesome acquisitions of property, and often with as much wealth as was good either for its possessor or those to whom it descended by inheritance. Let us now examine how the present times will compare with the by-gone days in which the old folks got rich by farming, and see where the advantage lies. Does not grain of all kinds, butter, poultry, potatoes, fruit, and indeed all kinds of produce sold by a farmer, command a much higher price now than it did fifty years ago? And is it not a fact that implements of agriculture, clothing, and articles of houeshold consumption generally are purchased for less money at present, than corresponding articles were bought for, half a century since? Whence then, is farming a less money making business than it was in times that are gone by. We must search for the cause of this discrepance, if it really exists, in some other direction than the one we have been examining. Perhaps there is on the whole, less industry, less economy, less good management, commingled with more extravagance, more unsettlement in families, and more traveling about in search of recreation and pleasure, instead of keeping a close lookout for these at home, forgetting the maxim that *a farmer's pleasure ought to be where his business is.* Some assistance may perhaps be furnished in solving the question of new-times vs. old-times by adverting to the history of a worthy old mechanic who became rich by following the business of saddler and harness maker in the village of Germantown

many years ago. He was prudent, careful, and industrious, and made up his mind *to eat his brown bread first*, that is in the beginning of his career, and the consequence was, that he became respectable and rich, and then he could *eat his white bread* at his leisure, and it was found in the end that he had accumulated a stock of it, so large that it was sufficient to supply another generation. This old gentleman in the latter part of his time when walking the street of his native village and seeing a saddler's shop, stepped in and inquired of the proprietor how he was getting along in his business. The reply was "bad enough. Oh! Mr. J., we hav'nt such times now as you had when you followed the business; we have to pay high prices for our stock, and then we can't get such prices for our work as you did many years ago. This put the old man on the inquiry about the price paid for leather, which was soon discovered to be less than it was in his day; and then followed questions about the price saddles, bridles, and other articles sold for; when it was found that the rates at which they were sold was considerably more than he had received for the same description of articles in the most prosperous period of his business. This developement led the old gentleman to point out to his young neighbor the cause which he apprehended produced the hard times complained of, and to give him some hints which were not altogether lost. He observed that hard times were generally of people's own making, that industry and economy, care and close attention to business were much more liberally rewarded at that time, than they ever had been within his recollection, and that if he had been favored with such a golden harvest as then rewarded the mechanic, his property would have increased to more than twice the amount he was then worth. "Avoid extravagant expenses," said he, "be industrious, spend less than you earn, be careful in making investments, and if you are favored to live to an advanced age you will be rich; and nine chances to ten your children will be spoiled and injured by it; for this is the way things work in this country: every body almost wish to eat their *white bread first*, and then as a matter of course the *brown* has to be eaten last, bitter as it may be, and it don't relish near so well as when taken t'other end foremost. J. J.

Endeavor to be first in thy calling, whatever it be: neither let any one go before thee in well doing; nevertheless do not envy the merits of another, but improve thine own talent.

No false pride, or foolish ambition to appear as well as others, should ever induce a person to live beyond the income of which he is certain.

For the Farmers' Cabinet.

English Thorn or Hawthorn.

In some parts of our country where timber is becoming scarce, and stone cannot be obtained, it is of much importance for farmers to inquire of each other, in order to give the required information, whether there be no cheaper method of fencing than by railing; the repairing and renewing of which, adds so considerably to the expenses of a farm. Fences, the farmer may consider as his frontier line of defence against depredations from and upon the exterior, presenting alike encroachments from without, as desertion from within. The peace and welfare of nations frequently depend upon the strict and just observance of this rule, and no farmer should consider it of less moment to the successful issue of his enterprise. Are his fences in bad condition? His cattle will stray away, become restless, and do not fatten well. He loses *time*, which is *money* to the thrifty farmer, in searching for them. In fact they destroy his own crops, injure his neighbors; his neighbors become aggrieved because injured by his negligence, and he forfeits all claim he may previously have acquired to the name of a *good manager*. To sum up the whole, all is loss, and there is no gain by bad fences. But to obtain the *cheapest*, which I conceive to be the *best* and most *durable*, is the object of the following inquiries:

I shall, Mr. Editor, give you my opinion as to what I consider the best and cheapest fence, in the hope that some of your numerous correspondents may do likewise, in order that in the end, by comparing the result of our different experience, we may come to a knowledge of what is the best material for fencing where there may be a deficiency of the usual materials, (timber and stone,) so that through the medium of the Farmers' Cabinet, we may derive that information by an interchange of ideas, which is for our common benefit; which, were it not through your own and similar publications, I perceive not how farmers could, as it were, daily communicate and receive communications who are residing unknown to each other hundreds of miles apart, as they now can and do, and which, to my mind, demonstrates more fully the utility of a free circulation and general perusal of agricultural papers.

The *Virginia thorn* appears to be affected with disease generally throughout the country; (though in the limestone regions, and in places where it is not cut as formerly, but allowed a more natural growth, appears yet to flourish,) and shortly must be useless for fencing, without a remedy be speedily applied to stop the rapid progress of its destruction. The *New Castle thorn*, I am informed, is not

thus affected. I hope some of your correspondents will give us definite information on this point. I shall confine my remarks to the English thorn, or hawthorn. Hedges made of this thorn are, in England, the only fences against the largest cattle, and in fact are there the only ones required, as no cattle can break pasture when enclosed by one in good order and at a proper growth. I shall at once proceed to the point, and state my opinion as to the mode of obtaining such a fence. The haws or berries must be gathered, when ripe, and buried in the ground for a season, and the next autumn or fall sown in a vacant lot. It is best to plant them in beds, leaving paths between each, as some persons do strawberries, that they may the more conveniently be kept clean, which must be carefully attended to. When the quick or young thorn has become of sufficient size for planting, which does not happen until of two years growth, it should be carefully taken up and assorted, and all small and unhealthy shoots laid aside, so that all gaps may be avoided from the cause of their failure. The preferable plan is to plant it in a single row, and much thicker than usually planted, say three inches apart, for the same quantity of quick planted in a single row is far preferable to that quantity planted in two rows. A trench or ditch should be made in the fresh soil, and the roots of the quick laid carefully in, being disentangled and unbent, when the earth should be replaced again, after which it should be cut carefully off within an inch or two of the ground. The following summer it should be kept perfectly clean, and at the end of the year cut down within about six inches of the ground, and again the next year within twelve or fifteen inches, in order to make it branch well and thicken. At the time of cleaning in the fall, the moulds should be put a few inches higher up the stem, which, with the assistance of cutting, will make the roots branch out for the better support of the plant. The only attention it will now require is to shorten it a little the following season, and when required, afterwards, to keep it clean and the cattle from biting it, which is exceedingly injurious to young quick; and as they are particularly fond of it, especially sheep, caution must be taken to avoid it, and a few years from this time, no farmer will have cause to regret his former trouble.

I do not think it a good plan to cut quicks in the formal manner that they usually are, making them smooth at the top and sides by cutting every piece of the same length, as it appears a direct injury to them in a hot season; and I have noticed particularly that those quicks that are thus cut die when others do not. It is required, however, they should be trimmed at the sides, and headed when they grow too luxuriantly, so that they do not receive injury from the snow lodging upon them and breaking them down, which, if it does when spring arrives, the broken pieces should be cut away. This process is best performed with a hatchet or strong sword. When the hedge becomes thin at the bottom after ten or twelve years growth, it should be cut down, leaving it about four feet high; and the side branches also should be well trimmed off that which is left standing within a few inches of the stem. Should not the stems stand any great distance apart, on account of portions having failed to grow, it will not require laying or tying down, which is of course an injury to the shoots thus cut to be bent. Even at this height, without laying, no ordinary cattle will break pasture, as it presents to them, as it were, a thick paled fence, which, in the course of another year, will be perfectly impregnable by them. When the quick has grown some eight years more from this latter cutting, it probably will become thin at the bottom, and may present signs of dying below, when it should be cut entirely down within eight or ten inches of the ground, moulded up again, and the cattle kept from it for a few years, when, at the expiration of four or five years, an excellent fence will again be produced. The farmer should arrange so that he cuts his fence down when he first ploughs up his clover layers, as then for the next four years he will not require to put cattle in his field, they being in corn and grain crops, at the end of which time he will have an excellent fence. We perceive then that for our first outlay of sowing the berries, and planting the quick and attending to it, which, if farmers will calculate, (for I think it not worth while making any special one here, as the expense would vary, according to circumstances,) will not be greater than buying railings, and making and repairing the fence. We get a fence as good as any rail fence, and better in point of saving, as there is no secondary expense in renewing, compared to the purchase of rails, it being a permanent one. Should any parts of it fail, the moulds must be well moved over before replanting, as quick will not grow in an old rooted bank or soil without being previously so moved over and cleaned. It is best not to plant any other variety of thorn or plants in the same hedge row, as they never succeed so well mixed; and should the soil be very wet, a small ditch and bank must be made and the hedge placed upon the bank; upon which subject, and others I may think of use, I may communicate to you further respecting. Those of my friends who doubt the practicability of the English thorn being cultivated in this country, have only to visit John Rudolph's farm, a short distance from the

Columbia Rail Road, about fourteen miles from Philadelphia. They will find in approaching his house two excellent fences of this thorn, which would be a sufficient barrier to the most resolute ox, the most stubborn pig, or the most courageous horse. I trust, Mr. Editor, some of your friends will elucidate upon what I have here hinted at, so that we may have one important question to farmers decided upon, namely: What is the best and cheapest fence, where timber and stone are scarce? ANGLICE.

August 29, 1838.

From the Macclesfield Courier.

Use and abuse of Bones as a Manure.

In 1834, two fields of sand land adjacent to Clumber Park, the one at right angles to the other, each containing about 20 acres, were sown with turnep seeds among barley; whenever these fields had been sown with turneps, for twenty years before 1825, they had always been manured with bones; in that year they were largely so manured. The seeds sown with barley in 1826 having been burnt up in that dry summer, in 1828 the land in both those fields was again broken up. In 1829, it was again followed with turneps, and manured with bones. In 1833, both these fields were again sown with turneps, parts of each of which were manured with bones, and the remainder with farmyard dung.

In 1834, when the corn was cut, it was found that the seeds had failed in each of these fields where the bones had been applied, and that they were very good where they had been manured with dung. In one of these fields the failure exactly followed the line of the difference of the manures, with two exceptions, that the seeds did not quite fail in two spots where formerly there had been dung heaps. In the other field the failure did not so exactly follow the line of demarcation, but the exceptions were very few. Generally speaking, the manured land is better than the boned land, but the difference of quality is not great, the crop of barley on the manured land had been at the rate of five quarters per acre, on the other four.

Immediately after harvest fresh seeds were sown on the boned land; they came up very thick, but in six weeks died and disappeared. During the winter the land was again fallowed, and fresh seeds were again sown in the spring of 1835. They cannot be said to have failed, but they were a very inferior crop, and notwithstanding a manuring of farmyard dung applied as a top dressing the following spring, they have not yet recovered a parity with the rest of the fields. In this case it seems impossible to attribute the failure of these seeds, where they have failed, to any other cause than the bones, which had certainly been applied with unusual abundance; and it is the more surprising that such a cause should have produced such an effect, because in the early periods of the use of that manure, it appeared to be in no respect more advantageous than in its tendency to encourage the growth of the clovers. Of this tendency, the most remarkable instances have been repeatedly seen on very poor land, and none more so than one which occurred on a very poor piece of land prepared for a plantation by a crop of turneps, manured for with forty bushels per acre, on which between the trees, a great deal of clover has spontaneously sprung up. Previously to this land having been broken up for turneps, scarcely a plant of clover was to be seen. Now the fields on which the seeds have failed had (as above stated) received much more frequently than usual, complete dressings of bones.

Combining the great advantage of bones on the first application of them with this failure, it seems difficult to avoid the conclusion, that as the bones while they are new to the land have produced the most beneficial effects, and as this failure has taken place where their application has been most frequently repeated, the success is in a great measure owing to the novelty, and the failure to the repetition of their application.

If the preceding statement required any confirmation, it has received it in 1837. In this year a field which had been in turneps in 1836, had been laid down to grass. The north side of this field is very inferior sand land, and as, till lately, it was supposed that such land would not pay for the expense of bones, they had never been applied to it. For the first time in 1836, bones were used for the turnep fallow. The south side of this field, which for many years has always been manured with bones, when in fallow for turneps, was divided into four divisions; the western side was manured with farmyard dung; that next to it with bones; the two eastern divisions were manured, the one with rape dust and the other with malt culms. After harvest the seeds on the north side appeared to be best; then those on the western side of the field; then those on the two eastern divisions, which were rather inferior; and those on that where the bones had been applied were visibly the worst. The frost has been so injurious to the seeds, that this difference between the three eastern divisions is not now so marked as it was before the frost; but the superiority of the northern side and the western division is very apparent.

Before you give way to anger, try to find a reason for not being angry.

Green Crops.

Mr. Editor,—Of all the modes adopted to enrich worn-out soils, the cheapest and the surest is the ploughing in of green crops. In this process we need no assistance from the chymist to analyze the soil or the manure. We can safely depend on the vegetable matter that has grown on the soil to nourish another growth on the same, and if we plough at the proper season, and completely subvert the sod so as to cover this growth, fermentation will be rapid enough for our purpose, and will pulverize the soil more completely than repeated ploughings.

To renovate mowing lands that have lain so long as to be filled with grass roots that choke and obstruct the circulation of the juices, they should be ploughed about the first of September with a plough that lays the furrow flat. If the land is poor, we spread on ten or fifteen loads of compost manure—roll the whole down close so as to leave no cavities below the surface, then harrow lengthwise of the furrow at first, next harrow diagonally, but never crosswise. We then sow our timothy and our redtop, and cover the seed with a bush harrow.

This is the only feasible mode of new-seeding low, or wet lands, for we cannot meddle with them in the spring, and if we could, the cultivated crops never repay the expense of cultivation, and the lands are left heavier than when we commenced.

By adopting the process recommended, we kill the growth of wild and sour grasses that always are creeping into low grounds. We have the benefit of a rolling green crop without the expense of a fallow. We lay our land much more smooth for the scythe than we possibly can in the spring. We avoid the expense of planting such land. We have a bed of soil that lies lighter than land that has been tilled; and we do this at a most leisure season, when our teams are strong and when the expense of keeping is trifling when compared with spring feeding.

No clover should be sown at this season; that may be cast on after winter commences, or on April snow; it will then be buried deep enough, and will serve for fall feeding. If this process is repeated a few times, after proper intervals, we should be under no necessity of manuring!! The old sod, turned up, will make a sufficient compost for the newly sown seed, and thus render our land richer and richer at every turn, provided we sow grain. We arrive at this conclusion from the fact that the grasses do not exhaust the soil. For whether a field has lain three years or six years in grass, we perceive not the least difference in its richness on ploughing it up to till again. Grass lands should be occasionally ploughed, for they become choked up with the roots; the ground is bound out, but not impoverished by feeding or by mowing.—*Yankee Farmer.*

For the Farmers' Cabinet.

Seeds of Plants.

The seeds of plants contain the embryo, or vital spark of the future plant, surrounded by and enveloped in a suitable case containing oil, farina, or mucilage, adapted to the nourishment and protection of the infant plant, until it acquires age and strength to send out the fine and delicate fibres of its roots into the adjacent soil, in search of nutriment for its subsistence and growth.

The more plump, full, and perfect the seeds of plants are, the more food they contain for the nourishment of the plant in its infant state, before it is weaned by being obliged to seek its subsistence in the adjacent soil by means of the fine fibres of its roots; and consequently its constitution will be stronger and better adapted to combat with future difficulties in obtaining a subsistence during the subsequent period of its existence.

Millet.

The more experience we have with this production, the better are we pleased with it, and the fact of the deficiency of the pastures, the present season, urges us to suggest the propriety of farmers introducing its culture into their respective systems of husbandry. How fortunate would it be for those who are now compelled to feed out their winter stock of hay, had they been so fortunate as to flush up a few acres of their harvest fields, after the grain was cut off, and put it down in millet, to cut and feed to their stock. Two acres of it in good ground, would yield grass enough to *soil* twenty head of cattle six weeks, and carry them in good condition into the middle of autumn. Should such precaution be taken in future, and the necessity for the use of it as green food not occur, it could be suffered to ripen its seed for market, the which being threshed out, would leave a large quantity of excellent provender to add to the winter stock.

But whether drought should occur or not, if cut and given to the milch cows, from its succulence and nutritious qualities, it would greatly add to the yield and quality of the milk and butter, and thereby increase the revenue of the dairy.—*Farmer & Gardener.*

From the experience of others, do thou learn wisdom, and from their feelings correct thine own faults.

For the Farmers' Cabinet.

A Hint for Correspondents.

Your correspondent T., Vol. II., p. 356, speaking of destructive insects, says, "men of science might render much service to the country if they would turn their attention to this branch of natural history and communicate to the public the result of their investigations in plain intelligible language, adapted to the understandings of the people generally."

Now cannot our Radnor friend perceive where the difficulty lies? I may have studied the subject of which he speaks—he says he is ignorant of it—how then can I communicate my knowledge to him? Every species of knowledge—every branch of science has—and in the nature of the case must have—its own peculiar and appropriate language. How then can I communicate my scientific knowledge to him before he has learned the only language in which it can be conveyed? Perhaps he does not yet appreciate the difficulty. I will explain more fully. Was he ever in a school where a large number of pupils were just learning their first rudiments? And why did not their teacher at once communicate to them the results of his more abstruse investigations, in arithmetic and the mathematical sciences, in language adapted to their understandings, without dragging them on for years through irksome and laborious preparatory studies? Because it would be impossible for him to do so. He could no more cause them to comprehend the algebraic equation $\frac{x+y}{5}+\frac{x}{3}-8=\frac{2y-x}{4}+27$—or to understand the calculations of an eclipse—than he could the very stones in the wall. And why? because he would have to use language which was not adapted to their understandings.

It is greatly to be regretted that the mass of the people are disposed to exclaim against scientific men for rendering their knowledge unintelligible to common minds. A little reflection ought to do away this disposition. A few men devote their time and talents to the advancement of science and its application to the wants of mankind. And the people reap the advantages of their labor unconscious from whence they come. They too often even look upon their benefactors with suspicion and jealousy instead of feeling grateful for the favors bestowed. I long to see the time when it will be otherwise. When the cultivators of science will be considered among the greatest benefactors of their race. When the rudiments of general science will be taught in every community—and even in all well regulated schools. When the public mind will be prepared to appreciate and to understand scientific instruction. And when such men as your correspondent T., will no longer say that they are "entirely ignorant" of things which have been before their eyes all their lives. If *practical men* who are constantly in the best possible situation to *observe and to investigate* the habits of insects, content themselves with *entire ignorance*, how can we expect scientific men to burst from the closet or the seclusions of the city to engage in the arduous work. I would say to T., "first put thine own shoulder to the wheel, and then call upon Hercules and he will assist thee."

Scientia.

New Garden, 9th mo., 1st, 1838.

Ploughing every other year.

The proper rotation of crops has been a subject of much investigation among judicious farmers in all countries; and in all probability it is a subject concerning which definite and strict rules can be laid down, such as the varying influence of difference of soil, climate, and seasons. We examined a piece of wheat the other day, on the farm of E. Wood, Esq., (Winthrop,) which seemed to indicate that ploughing every third year was preferable to letting the land lie a greater length of time before it should be disturbed by breaking up the sward.

The piece was apparently of the same quality of soil throughout, and had been treated in the same way, excepting, (if we mistake not,) one part had been broken two years ago and laid down, while the other part had been in grass a longer time. The difference as exhibited by the present appearance of the wheat was in favor of the piece which had been mowed but one year. The wheat on that piece was taller and of better color, and will undoubtedly yield a considerable more grain at the harvest. It is true that one experiment does not always establish a fact, but the above is very good evidence in favor of stirring the ground often. It has ever been a fact with a majority of the farmers throughout New England, (the north part of it, at least,) that they do not stir the land enough—that they are too sparing in the use of the plough, and suffer their fields to get too much exhausted of vegetable matter, waiting until they become covered with a thin crop of spire grass. In England, ploughing is a distinct branch of farming, and a ploughman with his team is kept almost constantly at work in some of their large establishments. Now it would not always be proper or prudent for us to follow English rules of farming in this country, but we may take useful hints from them; and it seems to us that one strong hint is, keep the plough going more constantly.—*Maine Farmer.*

The simple man is the beggar's brother.

Destruction by Grasshoppers.

It is admitted by every farmer with whom we have conversed, that the grasshoppers have been far more numerous and destructive the present season than any former one within their recollection. In former years their devastations were principally confined to clover fields, turneps, cabbages and the more delicate vegetables, but since their visitation the past summer and present autumn, their appetites appear to have taken a more various range, so that nothing goes amiss with them; for with their increased numbers their appetites have lost a large portion of that fastidiousness which heretofore confined their ravages to a few plants. Among the plants upon which they have preyed, is the corn in this section of country. A few days since, in walking through a small patch on our place, we discovered that they had made free use with it. Upon one ear we discovered them at work, and as the injury was extensive, we plucked it off in order tha we might hang it up in our office as a memento of their inordinate appetites. About one-third of the husk had been eaten off, and as far as the husk was off they had also eaten the the kernels and were then engaged in penetrating the cob. This, as far as we know, is a novel demonstration of their destroying powers, and as they are by no means an insignificant enemy, we record the fact, with the view that the subject may elicit the attention of farmers.

We learnt a few days since from a friend that an acquaintance residing in Carroll co., Md., had assured him, that they had destroyed about fifty young apple trees in his orchard. What remedy is to be applied we cannot say, for so subtle an enemy is not easily trapped. We have seen it stated that ducks placed on patches of vegetables where they have been at work have been found useful in some parts of our country, and from the habits of ducks, and the shyness of the grasshopper, we should think they might be so. It is said also that fires impregnated with the smell of tar or brimstone, placed to the windward, so as that the smoke will range over the field, will protect the growing plants. If either of these remedies will answer, we think they are eminently deserving of trial.

[The above we copy from the Baltimore Farmer and Gardener. A gentleman who returned a few weeks since from New Jersey informed us, "that the ravages of the grasshopper had become really alarming, especially in some parts of Monmouth county. He says, on one occasion, in company with some friends they observed, what at first sight appeared to be an immense quantity of feathers floating in the atmosphere, but continuing for a great length of time it excited their curiosity, and on a close examination, the cloud of feathers proved to be a cloud of insects. They were going in a S. E. direction; two of them were taken. They resembled grasshoppers, were of a bright, green color, about an inch long. During their flight, which continued about an hour, the air appeared to be filled with a long silken web, some pieces, perhaps 20 to 30 feet in length, apparently spun by the insect.]

For the Farmers' Cabinet.

The Mulberry—Silk, &c.

For the information of those interested in the mulberry and silk business, we cheerfully give place to the following letter from Mr. Chauncey Stone, of Burlington, N. J., to Dr. I. S. Naudain, of Delaware. Mr. Stone is a gentleman of intelligence, and has had much practical experience in the business.—We think his statements worthy of consideration.

Burlington, N. J., Aug. 1st, 1838.

Your letter of the 11th ult. was duly received, in which a number of interrogatories on the subject of silk growing, &c. were addressed to me, but by reason of other engagements I have been obliged to delay answering them until the present time. In replying to your questions it will be necessary for me briefly to recapitulate them. "Question 1. Have you been long engaged in cultivating the mulberry? 2. What species of morus do you deem preferable, and what kind of soil suits it best. 3. What is the best mode of propagating, planting, and managing it? 4. What is the value, expense, and profit on an acre of mulberries for the first five years inclusive? 5. What kind of worm do you consider the most valuable? 6. What help does it require to raise one hundred pounds of silk? 7. What buildings, fixtures, &c. are necessary in this latitude to raise one hundred pounds of silk? 8. What bounty or bounties does the Legislature of your state offer to encourage the growth of silk? 9. Is there a ready market for cocoons and reeled silk? Any other information you may be pleased to communicate in accordance with the foregoing questions will be thankfully received and duly appreciated." I will endeavor to give each of these questions, in their order, a fair investigation.

First.—"Have you been long engaged in cultivating the mulberry." I am one of the number who first commenced the silk business

in this vicinity, and have devoted the two last years with close application practically to the culture of the morus multicaulis and rearing the silk worm.

Second.—"What species of morus do you deem preferable, and what kind of soil suits it best?" I have taken much interest during the last few years in comparing the relative qualities of the different mulberries; and at present I know of none I deem preferable to the morus multicaulis for this and the more southern latitudes for the silk business. The Alpine, the Canton, and the Brusa, are excellent species, and may be well adapted to the more northern latitudes; but they are slower of growth, and less productive of foliage. Most of the different species I have seen, which are fourteen or fifteen varieties, require four or five years growth before having much foliage to part with; but the multicaulis will yield a large quantity the first year's growth without injury to the tree, and is eaten with great avidity by the silk worm. The mulberry that is most productive of fruit is less productive of foliage. The multicaulis produces very little fruit, and is not often grown from the seed. It will flourish well on all soils where the peach tree does. To select a location on which to plant a field for the silk business, I would prefer undulating grounds, having a deep mellow loam, and mixed with sand and gravel sufficient to prevent the soil from baking or crusting.

Third.—"What is the best mode of propagating, planting, and managing it?" After having the ground made mellow, lay out the field in rows about four feet apart, and the surest mode, by taking one season with another, is to lay the trees down full length and cover deep enough to keep moist. The time for planting in this latitude, I think, will be during the first and second weeks in April, in common seasons. By planting a field of mulberries in this mode they must be taken up in the autumn, as they will stand too near each other to remain in the ground. But to plant a field of mulberries not to be taken up in the fall, my views are to lay out the rows about five feet apart, and plant, in the rows, roots or cuttings two feet apart, and in the autumn take up every other tree in the rows, leaving them standing four feet apart; the remainder to have the tops cut off near the ground in the fall. The following spring, many shoots from each stump will start up with vigor, and produce abundance of foliage, and easy to be gathered. Where the field is large, I think every fifth row may be omitted and not planted, but used as a passage for a cart or wagon in which to transport the foliage to the cocoonery. Our experiments made this season has proved the feasibility, that mulberries treated in the above manner will fulfil the most sanguine anticipations.

Fourth.—"What is the value, expense and profit, on an acre of mulberries for the first five years inclusive?" To answer this it will require some philosophical speculations, as the feeding of silk worms from an acre of multicaulis of four or five years' growth, has not been done by me, or under my observation. At the rate of fifty pounds reeled silk to the acre has been produced from the first year's growth of trees. But from an acre planted in the manner I have described, thirty pounds the first year will be a fair production, and by leaving the roots in the ground and pruning the tops in the autumn, I deem it not extravagant to estimate one hundred pounds reeled silk yearly on an average, the four succeeding years after the first year's growth of trees. After the cocooneries and fixtures for feeding are prepared, we can feed the silk worms and reel the silk at an expense not over two dollars and fifty cents per pound, and it is then worth from four dollars and fifty cents to six dollars a pound to the manufacturer.

Fifth.—"What kind of worm do you consider the most valuable?" At present I know of none I prefer to the white mammoth worm so called, but we have a kind that spins a large yellow cocoon, and is a very good kind. The silk of the white is worth most. We have a kind called the two crop kind, as it can be re-produced the same year, but they spin a small cocoon.

Sixth.—"What help does it require to raise one hundred pounds of silk?" It requires a person having experience to take charge of the feeding, who can manage during the first week alone after the worms hatch, and the second week a boy or girl will be wanted to pick leaves, and after that another person, equal to a full hand, will be all that will be required to finish the crop, which will be about three hundred thousand in number. By this calculation I expect the cocoonery to be convenient to the mulberry field.—It requires two hands to change the worms dexterously, but they can attend to that in the morning when the dew will be upon the leaves, and to gathering the foliage after the dew shall disappear. A stock of leaves will always be wanted before hand, lest there should be rainy weather, when they cannot gather them.

Seventh.—"What buildings, fixtures, &c. are necessary in this latitude to raise one hundred pounds of silk?" Common rough made buildings will answer well to feed in. I have seen a common barn used as a cocoonery, and the silk worms do exceedingly well. They like a gentle current of fresh air to keep them healthful. The fixtures &c., such as we have

adopted in this place for feeding, I described to you in a former letter. [See Farmers' Cabinet, Vol. II., page 331.] Our fixtures for spinning are common sawed lath placed about three inches apart on the under side of the shelves, and some simple means fixed for the worms to mount up on. They spin their cocoons in the corners, where the lath comes in contact with the shelf.

Eighth.—"What bounty or bounties does the legislature of your state offer to encourage the growth of silk?" The legislature of New Jersey at its session passed a law granting fifteen cents premium, per pound, on cocoons the production of this state, and to be in force five years.

Ninth.—"Is there a regular market for cocoons and reeled silk?" There are regular markets at fair prices for cocoons produced near where manufacturing silk has now began. The transportation of large bodies of cocoons to a distance is not practicable. The manufacturers are anxious to obtain all the good reeled silk our country can produce at present, and for some years to come, and pay a much higher price than for the best imported. Those who raise silk and wishing to sell it in its raw state had better reel it into skeins, and it is then in a merchantable condition.

Mr. Gamaliel Gay is the inventor of a set of machinery which is now in use in this place, that first spools the silk from the cocoons, and is then doubled and twisted into sewing silk, and is thought will answer a good purpose.

I have answered your interrogatories in a manner that appears most feasible to my views but I do not pretend to lay down any particular modes or systems as applicable to all future generations.

Respectfully yours,

CHAUNCEY STONE.

Jos. S. Naudain, M. D., Middleton, Del.

For the Farmers' Cabinet

Mulberry Trees.

I agree entirely with your correspondent T. S. P., Vol. II. p. 21, of the Cabinet, in considering the Maclura, or Ossage Orange, the very best plant known to us, for the purpose of forming a hedge, and regret exceedingly the difficulty of procuring seed. As a substitute, I would recommend a near relative, which, although it bears no thorns, may be made to answer the purpose of a hedge, and source of supply to a multitude of silkworms. I allude to the Italian white mulberry tree. This, when the mania for growing the multicaulis has passed away (as it certainly must in a few years,) will again be used for feeding them. The seed may be sown in a bed, and the trees transplanted at one year old, to where they are intended to remain in the hedge row, say 12 inches apart. Keep them headed down to make them bush out from the root, then begin at the right hand end of the row, and pass a shoot on the inside of the second, and the outside of the third tree; returning, pass a shoot from the third on the outside of the second and inside of the first tree, interlacing them in this manner, at a distance of about six or eight inches from each other, the whole length of the row.—This will form a fence for the support of the other shoots, which will in three or four years be so firm and compact, as to confine any cattle whatever. You will then have a good hedge, from which you may at any time cut with a briar hook or other implement, as many twigs with their leaves, as is required, and the more you cut them the firmer they will grow.

MORUS.

For the Farmers' Cabinet.

Reply to Observer on Insurance.

Observer gathers up rough words and uses them so at random, that I think sometimes he hurts people more with his manner than he benefits them with his knowledge. This habit, with the good opinion he is so apt to maintain of any new or novel notion that may fall in his way, makes it difficult to reason with him; besides a little unpleasant. For those reasons I would rather not come in contact with Observer without there was more room for rough and tumble than there is in the short and narrow columns of the Cabinet; but his last essay upon insurance is in my opinion so erroneous, and calculated to do so much mischief with those who may believe him, that I have concluded to throw together a few desultory remarks upon the subject of his essay.

Observer says—"The fact is—insurance is a speculation—a game of chance—a species of gambling, in which the chance of the game is always in favor of the insurer and against the insured. It is a kind of lottery, wherein the insured pays to the insurers not only all the remunerating fund which they are to receive back in case of loss—but they also pay the whole expense of the policy and furnish the profits of the game besides. Just so of lotteries, the purchasers of the tickets pay all the prizes—defray the expense of the scheme, and also the profit of the game besides."

Now these are Observer's facts. "Insurance a kind of lottery"—and why? because "the insured pays to the insurers not only all the remunerating fund which they are to receive back in case of loss, but all other expenses of the game." Now this "fact" appears at first view very plausible, and is well calculated to generate prejudice, and start the hue and cry of fraud and gambling against

insurance companies, and by this means sweep all before it; coming before us as a "fact," we suppose the author has made himself well acquainted with the subject he pretends to inform others upon. But stop—let us inquire and know whether those things are so. How are insurance companies organized? By individuals depositing or pledging a large sum of money, say $500,000, in the form of stock to pay losses upon fires;—and whose losses do they pay? The losses of their customers when they are so unfortunate as to meet with them; the very persons whom Observer says "pays to the insurers not only all the remunerating fund which they are to receive back in case of loss, but all other expenses." Insurance companies generally invest their capital in permanent securities; by this operation we will suppose they receive a fair interest for their money; their profits therefore great or small, all their expenses, and the risk of the whole capital must be met by the small premiums they receive. The game, as Observer calls it, often turns in their favor; but sometimes it is otherwise, when whole companies are broken up, their capital lost, and individuals ruined who have vested too largely in the stock; look at the devouring fires in New York, in Charleston, and many other places that have either ruined the companies or greatly injured the capital. These are the "gambling insurers" that always keep on the safe side; who play "a game always in favor of the insurers and against the insured." Comment here is unnecessary; Observer's facts upon the main point are all used up.

Let us now examine the subject of lotteries. How are those establishments formed, and in what way do they operate? Just as Observer says, "the purchaser of the tickets pays all the prizes—defrays the expenses of the scheme, and also all the profits of the game;" so that in comparing a lottery with the insurance company I have described, Observer has made an error in his calculation of half a million of dollars in the insurance, and fifteen per cent. in the lottery capital.

As to principle, Observer's own plan of insurance is as much a "species of gambling" as the institution he complains of: one plan may be more economical than another, but the principle in a moral point of view is the same; but no insurance bought either at a high or low premium can have any resemblance to gambling; there is no lottery in it; you may buy insurance too high like any thing else, but to talk about it being a thing of chance in the sense in which the word is here used, a mere hap hazard kind of affair, is perfectly futile and rediculous; a misapplication of terms. When money is paid for insurance value is received; because it is as valuable for a man to diminish his losses, as to increase his profits. Is a man a gambler because he builds a parapet wall to his neighbor's house, or covers his barn with slate? No—neither is an insurer. The money paid in both cases is to lessen the risk of loss, and money cannot be spent for an object more just, fair and praiseworthy.

There is no more comparison between insurance and lotteries, than there is between incendiaries, who set fire to houses, and the generous hearted firemen who put fires out. A lottery office in a neighborhood may be compared to a grog shop, an insurance to a good bridge over a deep and dangerous stream. One leads you to ruin, the other safely away from danger. Insurance has grown up in the community upon the virtues of the people, lotteries upon their vices; if Observer can find comparison here he is welcome to it.

The plan proposed by Observer is a very good one, and I hope it will grow into general use. Mutual insurance has done well in New England, but it is not yet in operation in his neighborhood, and can answer no practical purpose until it is; but if his essay should prevent some honest farmer from insuring until it is too late, it will be but little satisfaction for him to know that saving a few dollars from the grasp of "gambling speculators" has deprived him of the means of rebuilding his barn. Farmers—if you are not in a situation to bear the loss of fire, insure your property; insure it on the best terms you can—but insure it.

Observer may suppose I am interested in insurance stock; but so far from this being the case, I have been a subject of profitable "speculation" to these "gambling insurers;" I have during the last 26 years paid on an average something over $28 per annum, and have not been burned out once. This kind of game, according to Observer, holds out strong inducements to become insurer; but this effect has not been produced; I have during the above period "speculated" a good deal in bank and insurance stock, but from a conviction of their instability I have exchanged them all for banks of earth, and stocks of Durham cattle.

In conclusion, I will remark, that I look upon insurance companies among the noblest and wisest of human institutions, deserving both the approbation of an enlightened community, and a high rate of interest for the risk necessarily attending such investments.

Subscriber.

Whatever be the size of a family, every member of it should be employed either in earning, or saving something valuable.

For the Farmers' Cabinet.

"Gather up the Fragments, that nothing be lost."

TOP DRESSING.

Nature always manures the soil by top-dressings, the rains carrying down the decomposed solution to the roots of plants: can man do better than to imitate and assist her in her operations for his benefit?

PREPARATION OF FOOD.

It is not what goes through an animal that nourishes him, but what remains in him.—Therefore prepare the food for animals, so that it will be thoroughly digested, that it may become a component part of their bodies, and "not be cast off in the draught."

HUSBAND YOUR MANURE;

It is the stuff out of which grass and grain is made.

ECONOMY.

The crumbs of manure should all be carefully swept up for preservation and use. *Many littles* make *much*, and much wants more. Enough is more than we have.

FAMILY CONVERSATION.

Sensible, judicious conversation in the family circle, exercises an important and salutary influence in forming the minds, and regulating the opinions of children and young people, and should be resorted to, as the most efficient means of regulating their future movements in life.

NECESSITY OF GOOD EXAMPLE.

Children are prone to follow the example, and to fall into the habits of those they associate with; hence the importance of excluding them from the society of the immoral, the ignorant, the vulgar and the lazy; for it is as much a duty to protect them from moral as from physical disease, and of the two, the former is most to be dreaded.

APPEARANCE INDICATIVE OF CHARACTER.

The appearance of a farm, its buildings, and the live stock belonging to it, indicate with surprising accuracy the character and standing of its owner; if they look well, well; if bad, bad. A judicious traveler won't miss in summing up his opinion once in fifty times.

BOYS

That have been properly reared are men in point of usefulness at sixteen, whilst those that have been brought up in idle habits are nuisances at twenty-one.

REMEDY.

The best remedy to prevent a failure of crops, is plenty of manure and good tillage.

A GOOD RICH SOIL

Retains moisture much longer than that which is exhausted and poor.

THE FOOD OF PLANTS

Is neither more nor less than the principle of which they themselves are composed.

THINKING.

Those who don't think correctly, will not be likely to act well.

TRUE PLEASURE.

The pleasure resulting from having done something useful, is without alloy. Who has not observed with satisfaction, the cheerful, pleasant countenances of children, beaming with delight after having executed some little duty, or work of utility.

THE POWER OF SCIENCE.

The transmutation of the baser metals into gold and silver, is a small affair compared with changing darkness into light, want into plenty, misery into happiness: yet science can do all this. R.

For the Farmers' Cabinet.

Ice Houses.

"Home," Sept'r. 29th, 1838.

I observed a communication in the last number of the Cabinet by "Subscriber," saying the larger the house the better the ice keeps—now this is self-evident. But the matter is to construct one suitable for any private family that shall preserve the ice from January to January. I should be much indebted for such a communication, as I wish to build one this season.

Subscriber says one nine feet square by nine feet deep will hold 27 cart loads; my opinion is they must be *small* cart loads; it matters not; we know these dimensions will hold just so many solid feet—therefore need not be measured in any other way; but I think 19 cart loads would come nearer filling it.

Also in the same number is another article over the signature of "A Phila. Co. Farmer," which looks to me to be about the thing.—Would he be so liberal as to extend his view and state for information how many cart loads it takes to fill those dimensions—16 feet by 12, and 16 feet deep.

PUBLIC GOOD.

For the Farmers' Cabinet.

The Apple Year.

Why do our apple orchards bear us a full crop every second or third year only? Are the trees so much exhausted by overbearing as to require an intervening year to recover their energies, or is it the habit of the tree so to do? If the first be the cause, the effect would be prevented by raking off when quite small, about one-half of the apples. If the second, I would suggest that stocks be budded from trees that bear well in the interval to equalize the product, and make every year an apple year. POMUM SECUNDUM.

For the Farmers' Cabinet.

Lime your Orchards.

Who don't love good fruit?

The effect of lime on orchards and on grounds in which fruit trees are planted, is stated to be very beneficial; it improves their health and promotes their growth, and it is said to improve the quality of the fruit. The food or pasture of the trees is increased in quantity, and improved in quality by the application, and it is doubtless an important agent in destroying the grubs and worms which are so destructive to fruit trees by the wounds which they inflict, as well on the tender, absorbent fibres of the roots, as on the branches and trunk.

The good effects of lime on apple and peach trees is perceptible in a short time, and it is believed equal benefit will be derived from its application, by all other kinds of fruit trees.

Let us try it without delay, for it is universally known that good fruit is never produced by an unhealthy tree.

B.

For the Farmers' Cabinet.

Noxious Weeds.

Friend Libby,—Agreeably to the suggestions of Farmer, Vol. II. page 328 of the Cabinet, I send you a few dried specimens of weeds found on the border of our city, hoping my example may be followed by others, and a collection thus made for the inspection of our country friends. Among them you will find the Canada thistle, and the three spired clot burr, (*xanthium spinosum*,) two formidable weeds that should not be suffered to intrude themselves upon any respectable neighborhood. The first having perennial, creeping, as well as deeply descending roots, very tenacious of life, and I believe can only be destroyed by a large portion of salt, or caustic lime. The latter is an annual; when young and the spires are soft, it may be pulled up by hand, if armed with a buckskin glove; when old you will require a pick, or a pair of blacksmith's tongs to effect the same object, or it may be destroyed by cutting when the seed is nearly ripe.

Yours, truly, Rambler.

The specimens referred to above may be examined at the office of the Cabinet. Our correspondent Rambler will please accept our acknowledgments. He has set a good example.

Patience, application, and courage overcome all difficulties.

For the Farmers' Cabinet.

Agriculture of Central Pennsylvania.

As it may be interesting to some of your readers to know how we farm, situated as we are in the heart of the state, and we ourselves having a little ambition to be known abroad; we propose gratifying it by setting forth some of our views on agricultural subjects for their perusal. Penn's Valley, from which we write, is for the most part a heavy limestone soil, and fertile. Our principal crops are corn, oats, wheat, and rye. We generally sow clover, or clover and timothy on the rye, and then break up for corn; the other crops follow as they are above arranged. But there are frequent deviations from this rotation.—Rye is not valued much, and is not so much cultivated as the other crops. We plant corn in the end of April, or beginning of May, preferring early planting; for the summer season is contracted very much with us of late years. Early spring ploughing is universally preferred to fall ploughing, for our farmers maintain, that, at least in this soil, they obtain a better tilth by the former practice, and are more secure against the cut worm, especially if there is frost after it is ploughed. It is plastered as soon as it is up. When a few days old it is harrowed. Eight or ten days afterwards the cultivator is used, and in about ten days more the plough. The average yield is fifty or sixty bushels per acre. Some of the Dutton corn was planted here last spring, but as the season has been very unfavorable to it we have not decided on its merits. Many farmers sow clover in the corn, and fallow for wheat the next year. In this way the best crops of wheat are raised. But, most generally, oats are sown on the cornstalks.—As soon as the oats harvest is ended, all hands are busy, getting out the manure on the stubble. One good deep ploughing is found to answer as well as two or three, the labor is much less, and the husbandry not so foul.—The average crop of wheat may be set at twenty-five bushels per acre. The use of lime is not fully introduced here yet, though its value is appreciated,—not properly, perhaps. In our soil we prefer leaving the surface rough and cloddy, rather than reducing it to a fine mould, because the clods moulder around the roots of the wheat and afford it protection through the winter. We have fruit of various kinds in abundance, excepting peaches, which do not flourish here. Our orchards are principally of natural fruit, though many improved fruits have been lately introduced. It would be very gratifying to some of us who wish to plant next season, to find in your useful paper before long, a list of a choice collection of fruits, suited to farmers in general, with the necessary descriptions, &c.

This is a rude sketch of our rude system

of farming, and though our success is in general satisfactory; yet all are bent on improvement, which is evident by the interest taken in your valuable paper. But after all we acknowledge our chief dependence on a benign Providence, giving us "the early and the latter rain," and conducting the mysterious process of vegetation through all its various stages to the "full corn in the ear." And we dread the base ingratitude of rendering that rich supply, which he has made for our daily bread, subservient to the destruction of our race. We dread the poison as we dread the arch fiend whose purposes it serves.

But enough for once—perhaps too much

ARATORES.

Centre co., Pa., Sept'r. 24th, 1838.

☞ The request of Aratores shall be attended to—probably in our next. We hope to hear from him again.

Apple Butter.

Being at the house of a good old German friend in Pennsylvania, in September last, we noticed upon the table what was called apple butter; and finding it an agreeable article, we inquired into the modus operandi in making it.

To make this article according to German law, the host should in the autumn invite his neighbors, particularly the young men and maidens, to make up an apple butter party. Being assembled, let three bushels of fair sweet apples be pared, quartered, and the cores removed. Meanwhile let two barrels of new cider be boiled down to one-half. When this is done, commit the prepared apples to the cider, and henceforth let the boiling go on briskly and systematically. But to accomplish the main design, the party must take turns at stirring the contents without cessation, that they do not become attached to the side of the kettle and be burned. Let this stirring go on till the liquid becomes concrete—in other words, till the amalgamated cider and apples become as thick as hasty pudding—then throw in seasoning of pulverized alspice, when it may be considered as finished, and committed to pots for future use. This is *apple butter*—and it will keep sweet for very many years. And depend upon it, it is a capital article for the table—very much superior to any thing that comes under the name of apple sauce.—*Gospel Banner.*

☞ The report of the Agricultural Society of this city, did not reach us in season for our present number. The annual agricultural exhibition and sale will be held at Elliott's tavern, on the Lancaster road, about a mile and a half from the Permanent Bridge, on the day of October inst.

Quantity of rain which has fallen in each month since January 1, 1838.

	Inches.
1st month,	2.20
2d month,	2.19
3d month	3.17
4th month,	3.58
5th month,	3.57
6th month,	6.60
7th month,	2.37
8th month,	2.78
9th month,	9.51

Philadelphia, Oct. 1, 1838.

A number of communications have been necessarily deferred until our next.

☞ The regular monthly meeting of the Horticultural Society, will be held at the usual place, on Tuesday evening, the 16th instant.

The meeting of the Agricultural Society will be held in the Philosophical Hall, in Fifth street, below Chesnut, on Wednesday morning, 17th inst., at 11 o'clock.

Mulberry Trees.

We are requested to state that Mr. J. B. Spencer Centreville, Queen Ann's county, Eastern Shore of Maryland, has several thousand prime MULBERRY TREES for sale, warranted genuine, and of good growth: will be sold by the foot or single tree, to be delivered this fall. Letters of inquiry, post paid, will be duly attended to.

A small but good Farm for sale.

Christian Tabler, of Jefferson, Maryland, has sent us an advertisement in which he offers his farm at private sale. We are under the necessity of declining the publication of advertisements of this character, or our sheet would be almost entirely filled with them. The farm offered for sale by Mr. Tabler, is situated in Middletown Valley, Frederick county, Maryland, near the village of Jefferson, and within 9½ miles of Frederick. It possesses all the advantages of good neighborhood. The farm contains 41 acres. The improvements are a stone dwelling, with all necessary out-buildings, saw-mill, &c. There is also a good assortment of trees, bearing excellent fruit. There are now about two thousand mulberry trees growing on the premises. For further information, application must be made (if by letter post paid,) to the owner as above.

Cattle Show.

A meeting of the CHESTER AND DELAWARE COUNTY AGRICULTURAL SOCIETY will be held at the house of Mr. Joseph P. McClellan, in the borough of Westchester, on Wednesday, 17th of October next, for the purpose of EXHIBITION AND CATTLE SHOW.

Farmers and others interested in or connected with agricultural affairs, are respectfully invited to forward to the exhibition any improved stock of a superior quality in their possession; farming utensils, articles of domestic manufacture, or any thing else embraced within the usual objects of an agricultural society.

By order of the Society.

JOHN T. HUDDLESON,
Sec. pro tem.

Cattle Show.

At a meeting of Directors of the Agricultural Society of New Castle County, Del. on the 24th Sept., it was, on motion,

Resolved, That a Cattle Show be held on fourth day, (Wednesday,) the 24th of 10th month, (October,) and that Dr. Thomson, S. Wollaston and William Chandler be a committee to nominate Judges at an adjourned meeting.

Resolved, That in consequence of the injurious effects of the recent drought, no Horticultural Exhibition will be held this fall.

Resolved, That all persons having animals to exhibit, be requested to inform some one or more of the following committee of arrangement at least a week beforehand, how many and what kind of stock they intend

exhibiting, so that pens may be prepared to accommodate them, viz: S. Wollaston, W. Chandler, B. Webb, Edward Tatnall, and Dr. Thomson.

H. GIBBONS, *Sec.*

9th mo. 24th, 1838.

A number of distinguished agriculturists from the surrounding states have been invited to be present at the Wilmington Cattle Show, on the 24th inst., and to dine with the company. We expect, therefore, an interesting day for our Delaware farmers.

State of the Markets.

Philadelphia, October 6, 1838.

Grain.—Supplies of *Wheat* have been limited, and no sales of any extent have been effected. Owing to the decline in the price of flour, buyers hold off for later advices from Europe. Small sales of good Delaware in store at $1 78 a 1 80. Our quotations are nominal in the present state of the market. *Rye*—No sales of magnitude. A cargo of 15,000 bushels from Odessa has arrived, imported for distillation. *Corn*—Demand moderate with limited supplies Sales of 2,500 bushels Pennsylvania round yellow at 92½ delivered on board, to 95 cents afloat; 2000 do. Southern flat yellow, by captains at 90 cents; 3000 do. do. by dealers, at 93 for inferior to 95 for good quality; a cargo of 1,600 bushels at 95 cents. *Barley*—A cargo of 1,100 bushels good new crop North River sold at $1 16 per bushel. *Malt*—A lot of 500 bushels North River sold at $1 37½. *Oats* are plenty, and prices have declined Sales of 11 a 12,000 bushels Southern afloat at 42 a 43 cents early in the week; later at 40 cents per bushel.

Flour and Meal.—There has been a material decline in the price of Flour; the nominal price of fair to good brands is $8 50 per bbl. but the sales are only in small lots for city use. Old stock, $8 25. Rye Flour is dull, a small sale at $5 50 per bbl. Corn Meal—Small sales for shipment at $4 00 per bbl. Puncheons are held at $20, and Brandywine $21 each.

Provisions—In *Beef* and *Pork* the sales continue limited and for want of stocks. The same may be said with regard to Bacon, of which the market is very poorly supplied, and prices remain stationary. Butter is arriving more freely, and good quality in kegs is offered at 20 cents with but few buyers. We quote 18 to 20 cents to-day. *Lard*—Sales of several hundred kegs Western from second hands, at 14½ cents per lb. on time; small sales of Jersey at 14½ a 15 cents, cash.

Potatoes—A cargo of Northern mercer are selling in lots of 20 to 200 bushels from vessel, at 70 cents. A lot of 100 bbls. sold at $1 50 each. 1,000 bushels from Troy sold at 75 cents.

Plaster—Cargo sales on both fronts of the city, at $4 per ton.

Flax—A sale of 5,000 lbs. swingled, at 7 cents per lb., cash.

Wool—The market has been exceedingly animated, and the operations in Domestic Wool within the last ten days, have been larger than they have ever been before, during any similar period of time in this city. Philadelphia having become the leading market in this country for the sale of this great and important staple, by means of our state improvements with the west, we shall devote unusual attention in our reports to furnish early and correct information respecting the state of the market. Our state is peculiarly adapted for raising sheep, and in many districts their increase has been very rapid; at the same time great attention has been paid to improve the breed. In Washington county alone, in 1836, there were 394,700 sheep, many of them of the best breed, the aggregate amount of whose wool exceeded one million of pounds. Manufacturers being now well supplied with water by the recent rains, and their stocks of old wool being generally very light, have come freely into the market.—The aggregate sales within ten days, amount to 130,000 lbs. Prices generally have not advanced since our last, but sales can be more readily effected at these rates, and in some cases an improvement of 1 to 2½ cents per lb. has been obtained. Among the sales we note about 16,000 lbs. prime fleeces at 50 cents, 6 mos. delivered in another market; 25,000 lbs. embracing prime fleeces at 50 a 52½; other grades in proportion, 6 mos.; 27,000 lbs. embracing 60 bales of extra fine, prime Saxony, from Washington county, at 60; very prime fleeces 54; ¾ blood 45, and ½ to ¼ do 43 cents, on time: 50 bales good prime fleeces 50; ¾ blood 44 cents, 6 mos. The other sales were at nearly the same rates, and the operations have materially reduced the stocks. A lot of 25 bales Buenos Ayres wool sold at 10 cents per lb.

Cattle Market—There were offered last week at the different Cattle Markets, 400 Beeves: 19 Cows and Calves; 550 Hogs, and 1,400 Sheep.

Beef Cattle—Prices have advanced from 50 to 75 cents per 100 lbs. Sales of very fair to prime quality at $8 25 to 9 25 per cwt. averaging over $8 75; about 25 head unsold. Cows and Calves—All the offering sold at from $17 to 24 for Dry Cows, and $25 to 37 for Milch Cows and Cows with Calves. A few extra at $40. Calves at $5 25 to 5 75 per cwt. Hogs—Part of the supply was from the west; 525 head sold at $6 75 to 7 25, averaging near $7 00. Sheep—Supply nearly all taken at $1 25 to 2 87½ for Sheep, and $1 00 to 2 00 for Lambs.

Flour and Grain.—Prices of Flour and Wheat at the latest dates were as follows:—

Boston, Oct. 6.—Flour, Genesee, $8 75 a 9 00. Corn, $1 02 for white, and $1 06 for yellow, per bushel.

New York, Oct. 6.—Flour, good Ohio, $8 25 a 8 62; common brands, Canal, $8 87½ a 9 00.

Baltimore, Oct. 6.—Flour, City Mills, 800 bbls. sold full last week's prices: Howard street, from store, $7 87½; wagon price, $7 50; Wheat, white, $1 70 a 1 75; Red, $1 60 a 1 63; Yellow Corn, 95 a 96 cents; White, 90 a 93 cents.

Richmond, Oct. 2.—Wheat, Red, $1 50 a 1 55.

Petersburg, Oct. 2.—Flour, $9 00 a 10 00 per barrel Wheat, $1 60 a 1 70.

Fredericksburg, Oct. 2.—Flour, $7 50. Wheat, $1 50 a $1 60.

Cincinnati, Sept. 29.—Flour, $5 62 a 6 00. Wheat, $1 06. Corn, 62. Oats, 43. Potatoes, $1 25.

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